

3/17/00
U.S. PTOApproved for use through 04/11/98. OMB 0651-0037
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**This is a request for a ~~patent~~ PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (b)(2).J553 60/190170
U.S. PRO
03/17/00

Docket Number	P00,0520		Type a plus sign (+) inside this box →	+	
INVENTOR(s)/APPLICANT(s)					
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)		
SPIRA STUEBINGER	Mario Juergen	Cosmas	Erlangen, GERMANY Erlangen, GERMANY		
TITLE OF THE INVENTION (280 characters max)					
'METHOD FOR PROVIDING MAINTENANCE SERVICES'					
CORRESPONDENCE ADDRESS					
HILL & SIMPSON 233 South Wacker Drive, 85th Floor Sears Tower Chicago					
STATE	Illinois	ZIP CODE	60606	COUNTRY	USA
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages 11 <input type="checkbox"/> Drawing(s) Number of Sheets _____			<input type="checkbox"/> Small Entity Statement <input checked="" type="checkbox"/> Other (specify) Attached Documents (13 sets)		
METHOD OF PAYMENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the Provisional filing fees <input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number: _____				PROVISIONAL FILING FEE AMOUNT (\$)	\$ 150.00

This invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

 No. Yes, the name of the U.S. Government agency and the Government contract number are _____

Respectfully submitted,

SIGNATURE 

Date March 17, 2000

TYPED or PRINTED NAME Melvin A. Robinson

REGISTRATION NO. (if appropriate) 31,870

 Additional inventors are being named on separately numbered sheets attached here to**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

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BOX Provisional Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Case Number: P00,0520

Inventors: Mario Cosmas SPIRA et al.

Patent Application entitled:

"METHOD FOR PROVIDING MAINTENANCE SERVICES"

Signature of person mailing documents and fee

S. Prendiville



Method for Providing Maintenance Services

The present invention relates generally to a modular system of providing technical

services. In the present system, a customer desiring maintenance services or technical services is provided a menu of available technical services from which to select desired technical services. A uniform service architecture is provided. Modules are provided at various business levels are provided, from the general to the specific. In one embodiment, three levels are provided.

Electronic system plans are employed, potentially based on CAD data, electronic handbooks, Excel lists and a standard organization software CMNS, Computerized Management Systems. This software is respectively employed for a location of a specific customer. An Enterprise Asset Management System (EAMS) is utilized between the individual locations, and the Enterprise Resource Planning System is located over the whole thing, this running, for example, on the basis of SAP program technology. The individual programs run on a Unix or Windows NT basis; they are implemented either in the computer system of the customer system or on servers of the respective Siemens Customer Service Center. However, a monitoring in the respective Siemens Customer Service Center is always a feature, this center being respectively in charge in a country or internationally as well, for example USA and Canada. Communication via Internet with special measures for secure transmission.

The present invention provides outsourced maintenance as a part of a business strategy. The outsourced maintenance includes plant design and construction, plant operation, and plant taking out of service and tear-down. The maintenance services offered also fall into the broad areas of technical services, consulting, repair service, parts supply, etc. The customer needs are evaluated and the customer is offered the services as modules selected from a menu. The

modules, which are implemented through software modules and hardware, are installed at a local level in each plant. However, operation and control of the service is provided through regional facilities that are linked to the local facilities by a communication connection, such as through the Internet. The regional facilities are provided at regions of the globe so as to offer 24 hour support to the local service locations, including providing a regional center in the Far East, one in the European Union, and one in a NAFTA country. One of these regional centers are open during business hours at any time of the day to provide support for the local service locations. The regional centers are in turn connected via communication link to a single world-wide headquarters.

Decisions on maintenance services are divided between the global, regional or local level. Business strategy for the customer, choices of modules to use, etc. are preferably made on the global level. Regional level decisions are determined by regional laws and regulations, manpower availability, etc. The local level is the plant level wherein decisions at that level are specific to the needs of that plant.

Within the context of the present application, maintenance services refers to and includes all those services described herein and disclosed or listed in the attached documents.

The present invention is disclosed in greater detail in the following claims as well as in the attached documents comprising 12 brochures, an overview of the brochures, and a print out of slides of a PowerPoint presentation.

We claim:

1. A method for providing technical services, comprising the steps of:

providing a first level of a technical services plan;

providing a second level of a technical services plan; and

providing a third level of a technical services plan.

2. A method as claimed in claim 1, wherein said first level is a worldwide level, said

second level is a country or region-base level, and said third level is a local level.

3. A method as claimed in claim 1, wherein said first level includes deciding how the

overall business is to be run and what software components are to be used.

4. A method as claimed in claim 1, wherein said second level includes deciding how

manpower is to be used.

5. A method as claimed in claim 1, wherein said third level is a plant-based or factory-

based level.

6. A method of providing maintenance service, comprising the step of:

providing a menu of technical services from which to select technical services.

7. A method for providing maintenance services, comprising the steps of:

providing a menu of maintenance services from which selections of maintenance services may be

made;

providing multi-level maintenance service modules; and

providing modular maintenance services.

8. A method as claimed in claim 1, further comprising the step of:

providing key performance indicators as an indicator of success of the maintenance service.

9. A method as claimed in claim 8, wherein said key performance indicators are used by

both vendor and customer.

10. A method for providing maintenance, comprising the steps of:

aligning maintenance to business objectives;

establishing rules for carrying out maintenance;

determining strategies for improving performance and reducing costs; and

establishing optimization while reducing overhead;

11. A method of providing services to industry, comprising the step of:

providing a menu of available services, said menu including at least one of:

technical services,

general contracting,

on-call and logistic services,
integral plant maintenance and auxiliary process management,
information technology solutions,
electronic design and manufacturing services, and
knowledge management.

12. A method of providing maintenance services, comprising the steps of:

providing a pool of maintenance resources;
offering customers services from said maintenance resources by a menu of services; and
provide standardized procedures and reference processes;

13. A method of providing a maintenance management system, comprising the steps of:

considering in combination:
a business plan,
an operational analysis,
a criticality analysis,
a component identification, and
a failure analysis; and

generating a maintenance plan from the combination.

14. A method for providing integral plant maintenance, comprising the steps of:

providing a plurality of services including:

providing plant maintenance services,

providing specialist services, and

providing support packages.

15. A method as claimed in claim 15, wherein said plant maintenance services includes

at least one of:

predictive and preventive services,

corrective services, and

shutdown services.

16. A method as claimed in claim 15, wherein said specialist services includes at least

one of:

condition monitoring,

on-call services,

reconditioning,

diagnostics and testing,

logistics and spares,

decontamination, and

motor fleet management.

17. A method as claimed in claim 15, wherein said support packages includes at least one

of:

know-how services,
maintenance business review services,
maintenance management services,
human resources,
training,
financial control and reporting services, and
maintenance technology.

18. A method of providing maintenance services, comprising the steps of:

providing a broad range of integrated services to a customer;
providing said services as modular units which are individually selectable to meet a customers
needs, said modular units including:
general contracting,
on-call and logistic services,
plant maintenance and process management,
information technology service,
electronic design and manufacturing services, and
knowledge management.

19. A method of providing maintenance services, comprising the steps of:

providing standard software modules corresponding to offered maintenance services,
installing selected ones of said standard software modules at a customer location, said standard

software modules being selected depending upon need of the customer at said customer location.

20. A method as claimed in claim 19, further comprising the step of:

installing other selected ones of said standard software modules at another customer location,
said other selected ones being potentially different than said selected ones depending on
differences in need of said customer at said another customer location.

21. A method as claimed in claim 19, further comprising the step of:

providing a menu of available standard software modules to the customer.

22. A method of providing maintenance services, comprising the steps of:

providing maintenance services at a plurality of local maintenance service locations;
providing regional maintenance services supervisory locations; and
providing Internet connections between said local maintenance service locations and said
regional maintenance services supervisory locations.

23. A method as claimed in claim 22, further comprising the steps of:

providing a single headquarters location; and
providing Internet connections between said single headquarters location and said regional
maintenance services supervisory locations.

24. A method as claimed in claim 22, wherein said regional maintenance services supervisory locations are provided for at least three regions, said three regions being: the Far East and the European Union and a NAFTA country.

25. A method as claimed in claim 22, wherein said regional maintenance services supervisory locations supervise manpower requirements for said local maintenance service locations.

26. A method as claimed in claim 22, further comprising the step of: transferring program modules from said maintenance services supervisory locations to said local maintenance service locations through said Internet connections.

27. A method as claimed in claim 22, further comprising the step of: providing control of maintenance services at said local maintenance service locations from said maintenance services supervisory locations through said Internet connections.

28. A method as claimed in claim 22, wherein said regional maintenance services supervisory locations are provided locations around to globe so as to provide 24 hour support to said local maintenance service locations, said regional maintenance services supervisory locations each providing support during business hours for a respective location of each of said regional maintenance services supervisory locations.

29. A method for providing maintenance services, comprising the steps of:
providing maintenance services taylored to an industry; and
offering service modules to customers in said industry for outsourced maintenance.
30. A method as claimed in claim 29, wherein said industry is the airport industry.
31. A method as claimed in claim 29, wherein said industry is the power plant industry.

32. A method as claimed in claim 31, wherein said power plant industry is one of: fossil fuel power plants, atomic energy power plants, and hydroelectric power plants.

33. A method as claimed in claim 7, wherein ones of said modules are basic services modules and others of said modules are premium service modules.

34. A method of offering maintenance outsourcing, comprising the steps of:
providing an assortment of available maintenance services for customer locations;
selecting ones of said available maintenance service for a given customer location;
installing said selected ones of said services at said given customer location; and
controlling said installed services remotely.

35. A method for providing maintenance services, comprising the steps of:
aligning maintenance policies to business objectives to develop a business plan;
establishing rules for carrying out maintenance policies;
jointly determining strategies to improve performance and reduce costs;
establishing organization to meet said business plan;
measuring key performance indicators; and
benchmarking performance.

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- ▲ Pharmaceutical & specialized chemical (industry)
- ▲ Infrastructure
- ▲ Production (industry)
- ▲ Power generation and distribution



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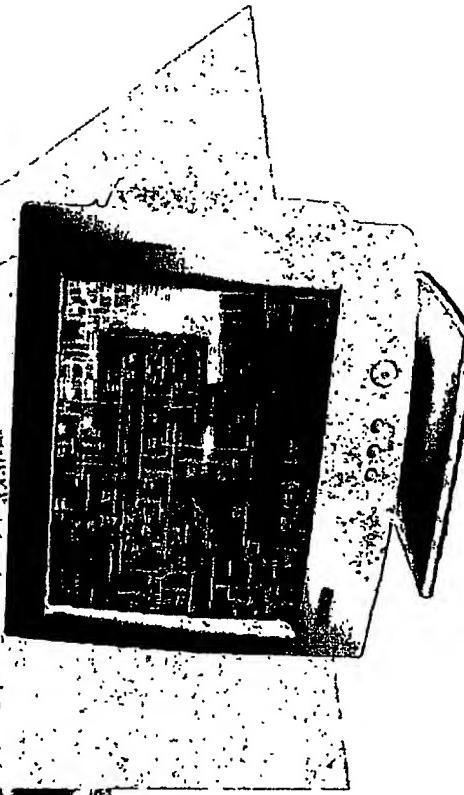
- Industrial specific packages (branch suites)
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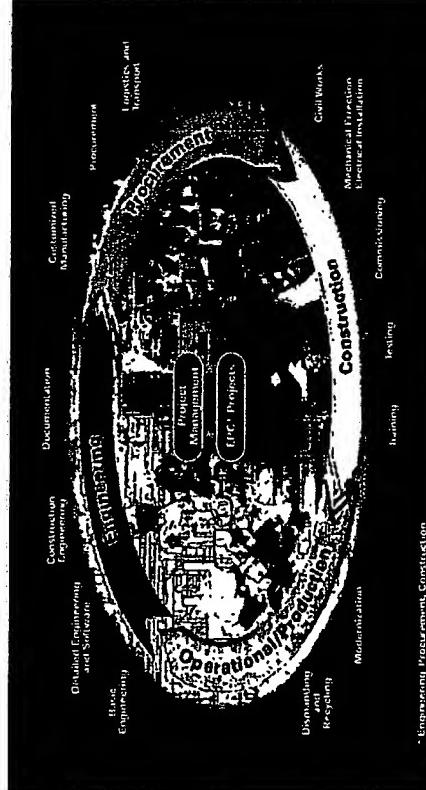


14.12

SIPLANT · General Contracting

TO 017/9 DOCUMENTS, 220 engl. 02.02.2000 14136 UAR Seite 9

All services from initial planning up to the finished plant.



Solutions from a single source

- All requirements and services for construction or modernization of plants to systems are met by our five requirement areas and service units:
- Planning, design, engineering of complex plants, feasibility studies, production of software, hardware configuration, production of requirement specifications, production of products, documentation, optimization of economic efficiency and productivity

- Execution of turnkey production and supply of plant sections or complete plants, branch units in erection work, including mechanical equipment, erection engineering, site management, erection supervision, project management, documentation, disassembly and disposal services, modernization, purchasing, logistics, transport

- Incitation of deliveries and components, sites in erection work, including mechanical equipment, erection engineering, site management, erection supervision, project management, documentation, disassembly and disposal services, modernization, purchasing, logistics, transport
- Turnkey production and supply of plant sections within the framework of the specified cost, agreed time schedule and with the specified quality

Competence for solutions which fit your needs

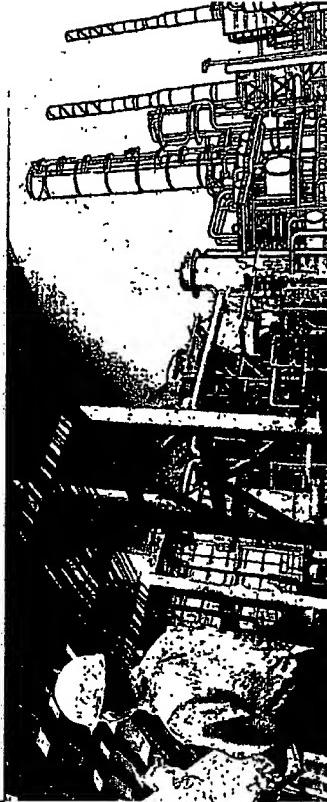
Your success is our success. Your success depends on a substantial change in the economic efficiency and availability of your plant to allow further expansion of future developments. You plan and control your production, automate your procedures, minimize secondary and ancillary processes. In this connection, formats must be defined, contracts must be managed, production data must be acquired, the quality must be tested and verified.

In SIPLANT you have a reliable partner, who knows just what you require and who wants your cooperation will produce better results and thus greater value for money. And this is exactly the entire lifecycle of your plant.

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SIMAIN - Integral Plant Maintenance and Auxiliary Process Management

10.11.99 2000, 070 cop. 02.03.2000 14:36 Uhr Seite 13



**SIMAIN -
run
faster, longer,
better.**

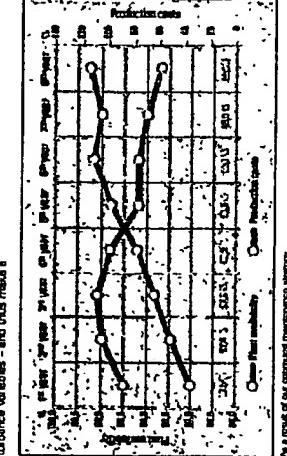
Your partner for industrial, energy and infrastructure applications

Internationally Siemens is the largest provider of technical services in our role as the high-performance partner for industry, energy and infrastructure applications. We efficiently take electrical, mechanical and civil works up to date

Focal points are

- Industrial plants
- Infrastructure installations
- Power plants
- Electromechanical equipment (e.g. machines/measuring instruments)
- Auxiliary process management
- Work benefits from SIMAIN
- Performer-based contracts with the customer's business needs
- Reinforce the alignment between the parties and ensure the workflow outcome is achieved
- Contract usually forms an integral part of the partnership
- In the arrangement, the rewards to the contractor are measured by Key Performance Indicators and reflect the success of the relationship. The nature of these indicators will depend on the type of the contract, and the objectives of the business and are agreed in consultation with the client.
- These can include
 - Plant availability
 - Product quality
 - Reduced operating costs
 - Safety

Every process is important. Even processes, which are not directly related to production, have a major bearing on plant availability. These auxiliary processes are covered by our Burnless Back Up Maintenance concept, first developed by our experience. Using highly reliable components, we ensure that production can run at full capacity even when there are resource shortages - and thus make a

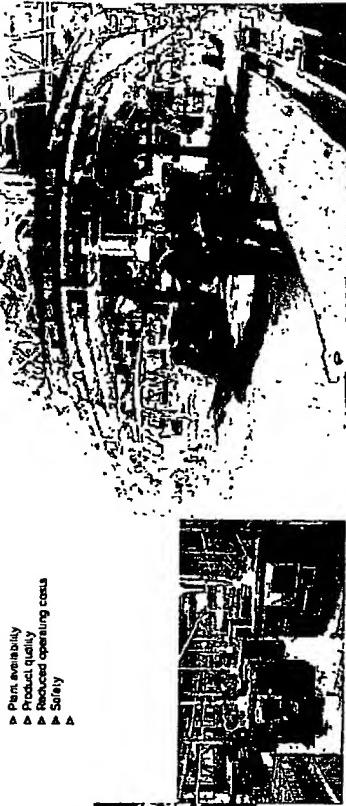


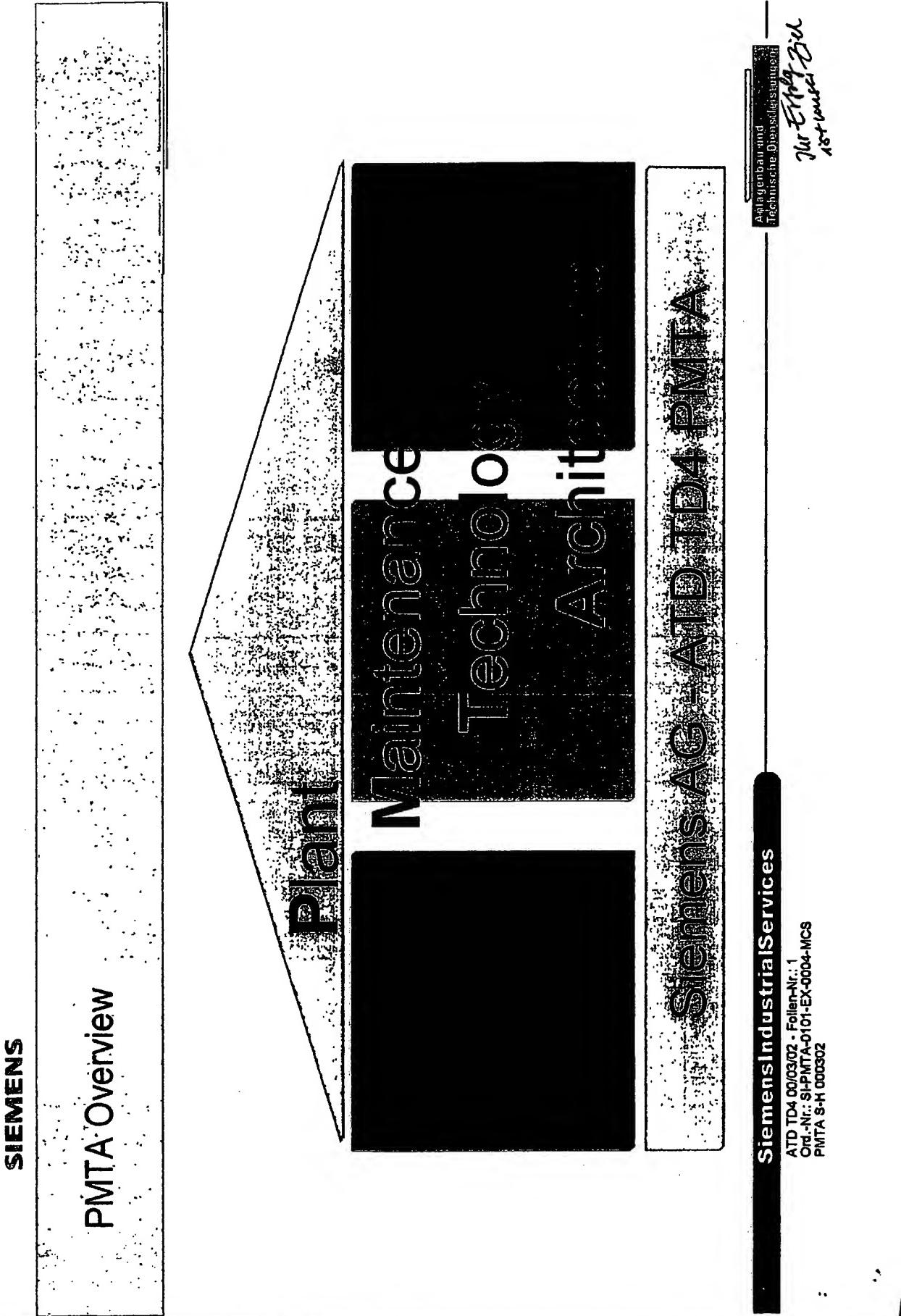
Integration of maintenance planning and service results in systematic increases in plant availability as well as in production quality. The optimum balance between maintenance costs and failure costs on the one hand and the optimum frequency of corrective prevention and corrective maintenance on the other hand



contribution to high plant earnings. This allows you to concentrate on your core competencies.

E-Mail: simain@siemens.de
www.siemens.com/simain





PMTA - Formulated to meet new market demands

Global Maintenance Market
in DM billion

80

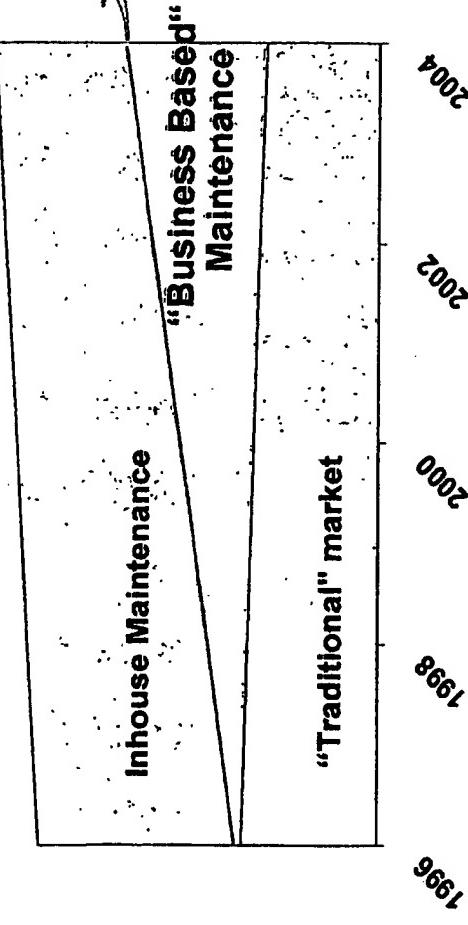
Trend setting Factors :

- Shareholder value increases
cost awareness
- Increase in consequential shut-down costs
- Increase in the volume of safety, environmental & certification instructions
- Customers expect global & standardized services

Factors critical for success:

- Process analysis & plant know-how
- Network of maintenance competence
- Pooling of resources
- Standardized maintenance methodology
- Cross-sector best practices

↳ increased customer benefit



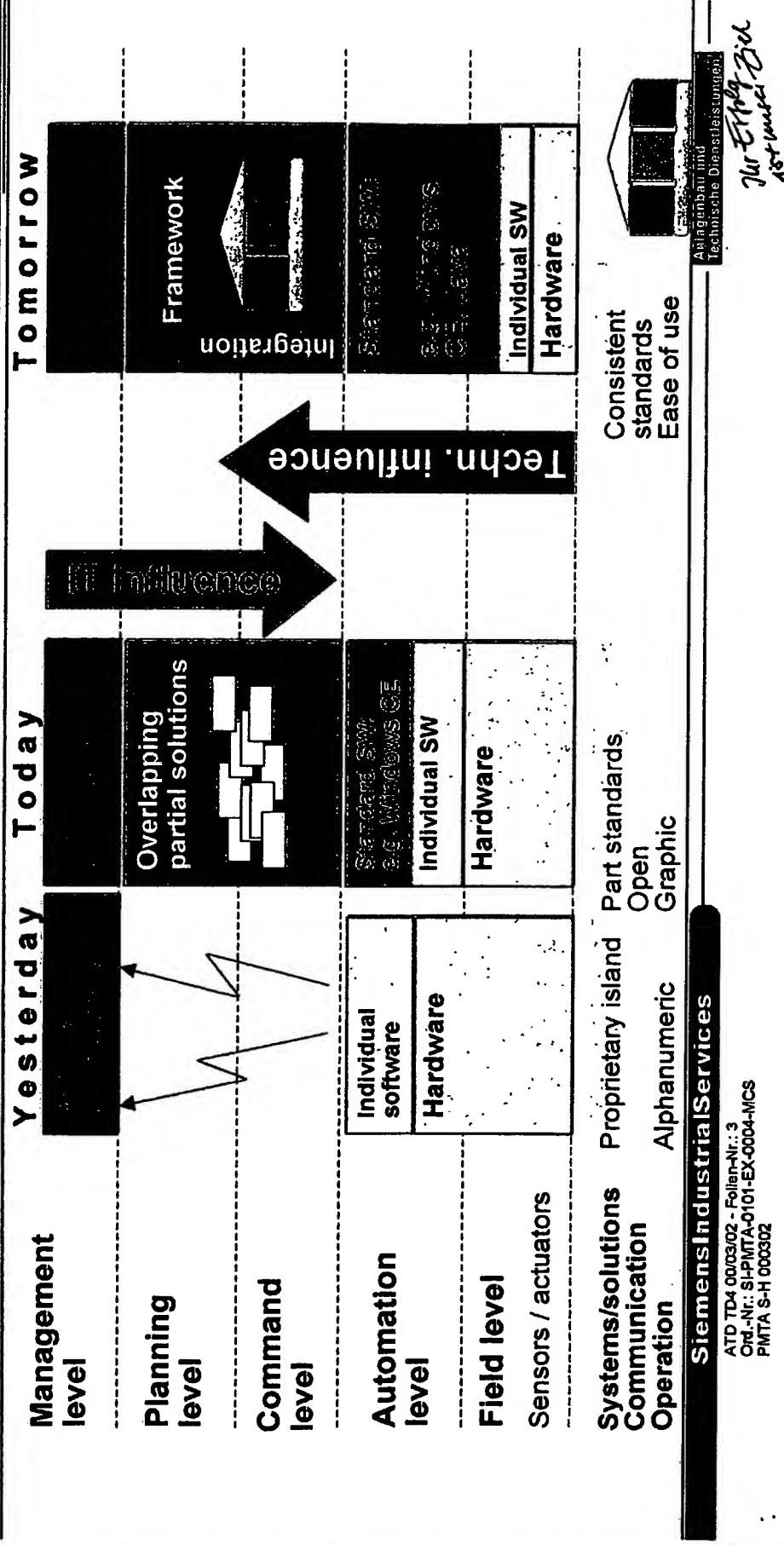
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ATD TD4_0000302 - FolienNr.: 2
Ord.-Nr.: SI-PMTA-A-0101-EX-0004-MCS
PMTA SH 00302

Jur Energie Ziel
ist unter

Anlagenbau und
Technische Dienstleistungen

IT Integration and Software Standards are Decisive Competitive Factors for Industry



SIEMENS

Plant Maintenance Technology Architecture Objectives

PMITA

- ✓ create standardized procedures and reference processes
- ✓ develop assessment models to as a decision basis for business-based maintenance
- ✓ define, structure and implement the framework for methodological knowledge acquisition
- ✓ provide an integration concept for universal and global IT support

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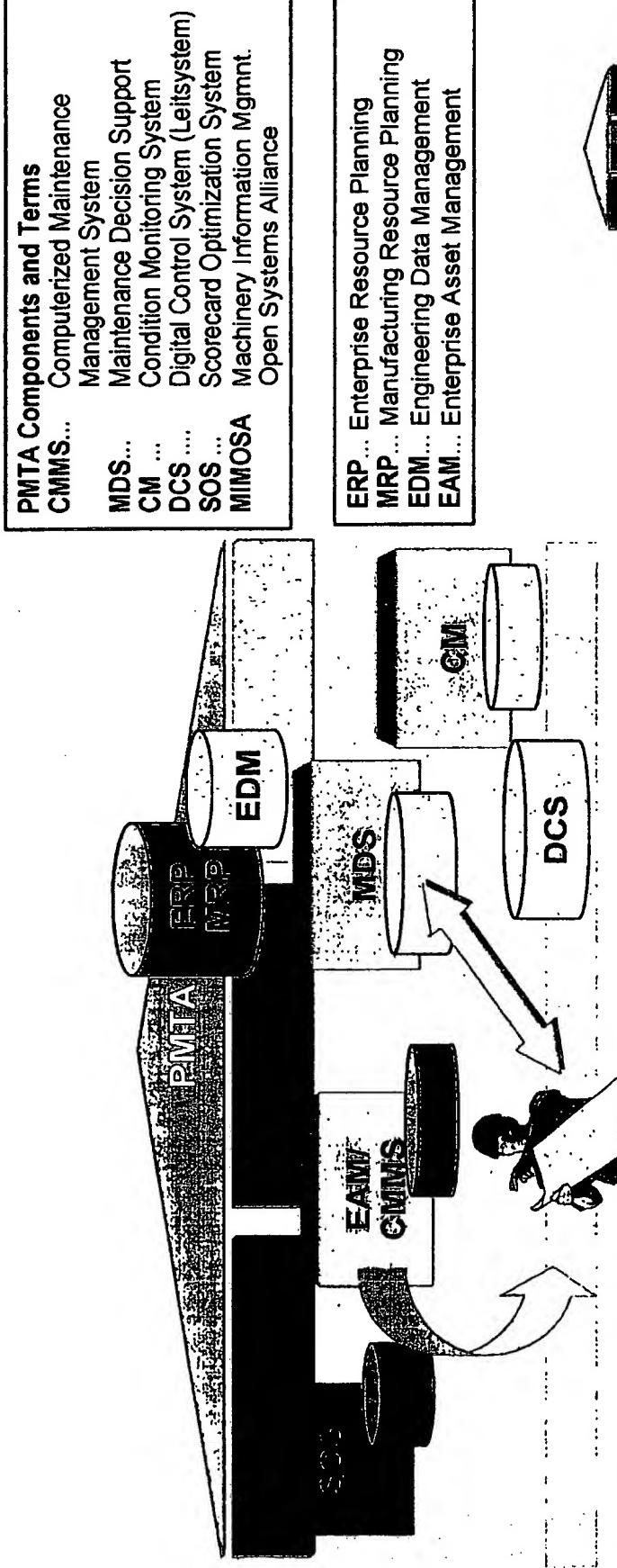
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Ord.-Nr.: SI-PMITA-01-01-EX-0004-MCS
PMITA S-H 000302

Arbeitsauftrag
Technische Dienstleistungen

Mr. Erich Zill
is turned

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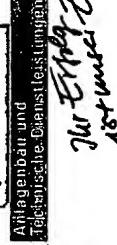
**PMTA - An integrated system environment that
enables the maintenance knowledge network**



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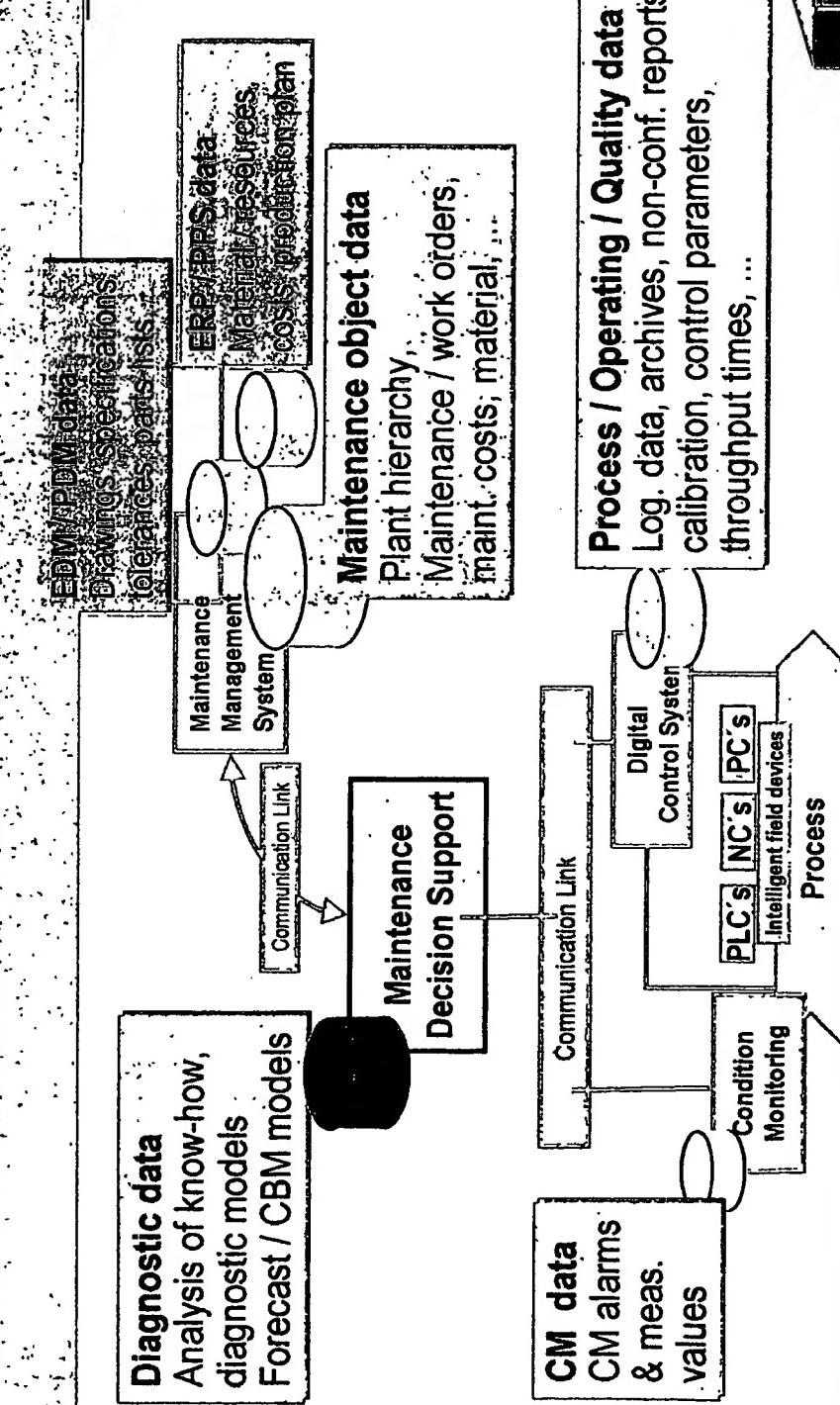
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PMTA S-H 000302



*Mr. Erich Zill
Institut*

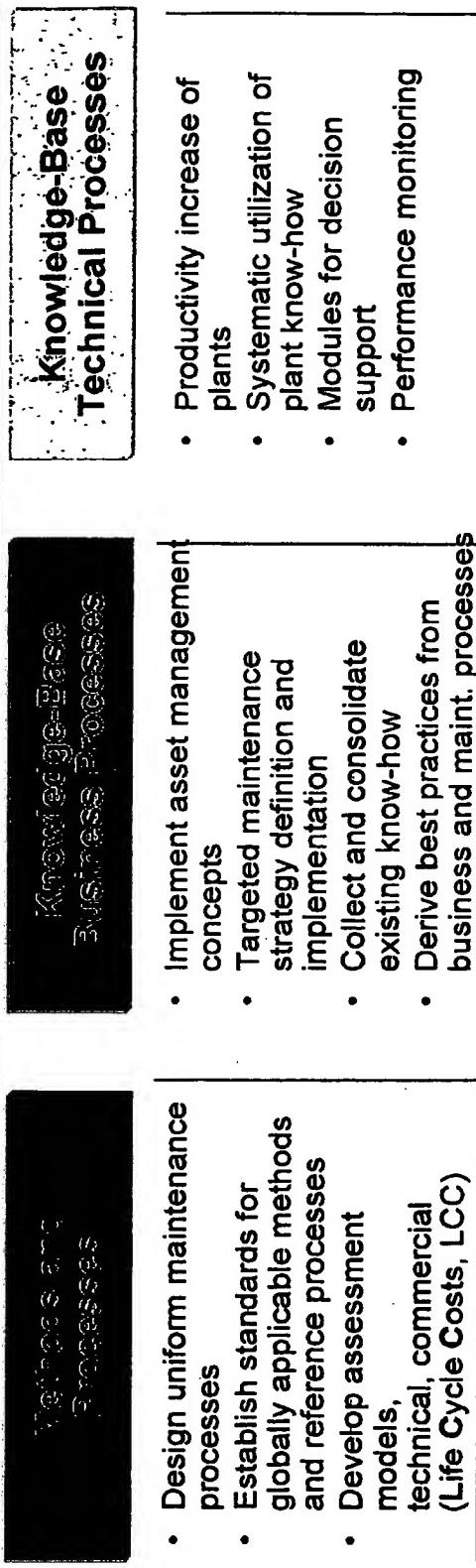
Overview of data and archives



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PMTA : Overall concept for know-how based world class maintenance for the development of new markets

PMTA Plant Maintenance Technology Architecture



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ATD TD4 0000302 - Folien-Nr.: 7
Ord.-Nr.: SI-PMTA-0101-EX-0004-MCS
PMTA S-H 000302

Amt für Arbeit und
Technische Dienstleistungswirtschaft

Mr. Erhard Zirn
18.11.2002

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PMTA - Methods and Processes

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PMTA

Knowledge-Base Business Processes

Integration

Siemens Industrial Services

ATD TD4 00/03/02 · Follen-Nr.: 8
Ord.-Nr.: SI-PMTA-0101-EX-0004-MCS
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Zur Erhöhung der
Sicherheit

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PMTA - Knowledge-based Business Processes

PMTA

Methods and Processes

Knowledge-based Business Processes

Knowledge-Base Technical Processes

- o سیمینس PMTA چیزی است که برای ایجاد فرآیندهای تجارتی مبتنی بر داده‌ها و تکنیک‌های پیشرفته در زمینه تولید و توزیع محصولات ایجاد می‌شود.
- o سیمینس PMTA با استفاده از فناوری‌های پیشرفته مانند نرم‌افزارهای آنالیز داده، پردازش داده و تجزیه و تحلیل داده، قدرتمند است.
- o سیمینس PMTA قادر است فرآیندهای تولیدی را به صورت آنلاین و غیرآنلاین مدیریت کند و این امکان را فراهم می‌کند تا فرآیندهای تولیدی را بهترین شرایط ممکن تحت کنترل قرار دهند.
- o سیمینس PMTA قادر است فرآیندهای تولیدی را به صورت آنلاین و غیرآنلاین مدیریت کند و این امکان را فراهم می‌کند تا فرآیندهای تولیدی را بهترین شرایط ممکن تحت کنترل قرار دهند.
- o سیمینس PMTA قادر است فرآیندهای تولیدی را به صورت آنلاین و غیرآنلاین مدیریت کند و این امکان را فراهم می‌کند تا فرآیندهای تولیدی را بهترین شرایط ممکن تحت کنترل قرار دهند.

Integration

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*Mit Erfolg
ist und bleibt*

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PMTA - Knowledge-base Technical Processes

PMTA

Methods and Processes

Knowledge-Base Business Processes

Knowledge-Base Technical Processes

- Total Productive Maintenance (TPM) and optimization of the plants based on continuous improvement processes

- On-line performance monitoring of the plants

- Development of Maintenance Decision Support (MDS) methods and modules for diagnosis, optimization and residual life estimation

- Integration of existing databases containing descriptions of product, system or plant behavior for technical modeling, e.g. wear models

- Preparation of an evaluation model and competence structure for commercial Condition Monitoring (CM)

Integration

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ATD TD4 00003002 • Folien-Nr.: 10
Ord.-Nr.: SI-PMTA-0101-EX-0004-MCS
PMTA S-H 000302

Anteilnahme und
Technische Dienstleistungen

Jur-Empf-Ziel
Formular

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PMTA - Integration

PMTA

Methods and Processes

Knowledge-Base Business Processes

Knowledge-Base Technical Processes

- Development of a PMTA information model, taking standards and strategic system platforms into account
- Evaluation and active support of important standardization activities in maintenance (MIMOSA, ISO, STEP)
- Provision of innovative technologies for Teleservice and "Virtual Team Support"
- Installation of effective mechanisms for experience exchange and knowledge management
- Piloting of methods and solution modules with selected customers

Integration

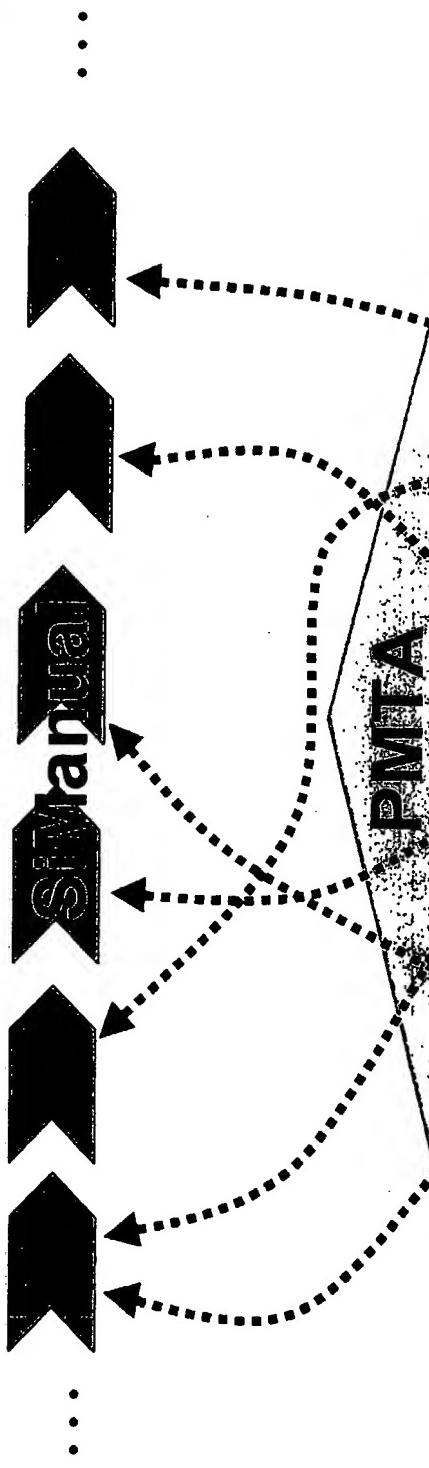
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Ord.-Nr.: SI-PMTA-0101-EX-0004-MCS
PMTA S-H 000302

Anlagenbau und
Technische Dienstleistungen
*Jur-Emp Ziel
18.1.2002*

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PMTA and SiI Manual



**Der Erfolg ist
ist und**

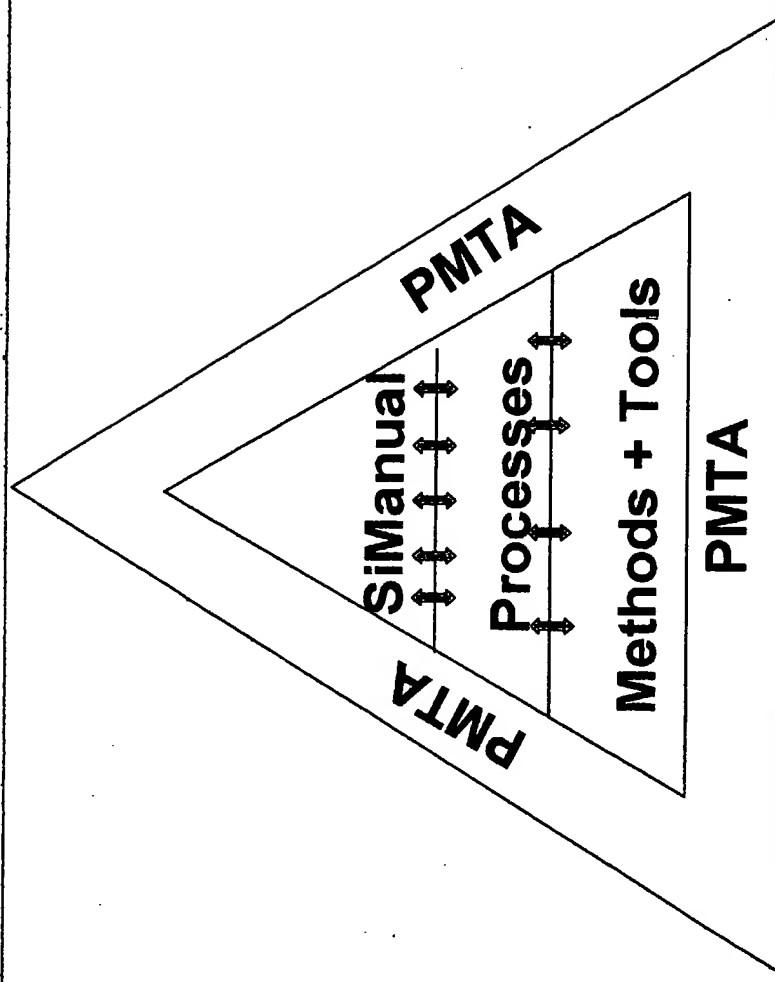
Angewandte
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Ord.-Nr.: SI-PMNTA-0101-EX-0004-MCS
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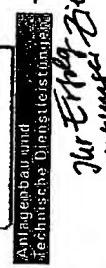
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Ord.-Nr.: SI-PMTA-0101-EX-0004-MCS
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Mit Erfolg zu
Ist und zu

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SIMAIN – run faster, longer, better



**fitness
for
plants**

SIPLANT
General Contracting

SI-7373 – OnCall-and-
LogisticsService

SIMAIN Plant Maintenance
Plant Operation

SIT_Industry
Industry Solutions

SERVTRONIC - Electronic
Manufacturing Service

SIBRAIN : Knowledge
Management

Siemens Industrial Services

Industrial Projects
Industrial Services

Your Success
is our goal.

Beating the competition by maintenance outsourcing

Is maintenance part of your core business?

As global competition increases and supply chains become shorter, businesses are being forced to find new ways to increase plant performance whilst simultaneously reducing costs. One way in which business is addressing this is by

- ▷ reducing complexity, thus enabling greater focus on the core business

One area of significant complexity for manufacturing businesses is plant maintenance. And as well as adding complexity, maintenance can make up anywhere from 5-40% of the total costs of production. Whilst maintenance is critical to business outcomes it is often regarded as a necessary evil, and as a result it has been difficult to achieve sustained improvement in performance from an in-house maintenance group without intense management effort that distracts from the core business process.

SIMAIN Business Based Maintenance - our systematic solution

Siemens delivers professional maintenance services throughout the world, not just for Siemens systems and installations but for all machinery and equipment in your plant. Siemens ranks among the very few maintenance providers who have the advantage of vast worldwide technical expertise and presence.

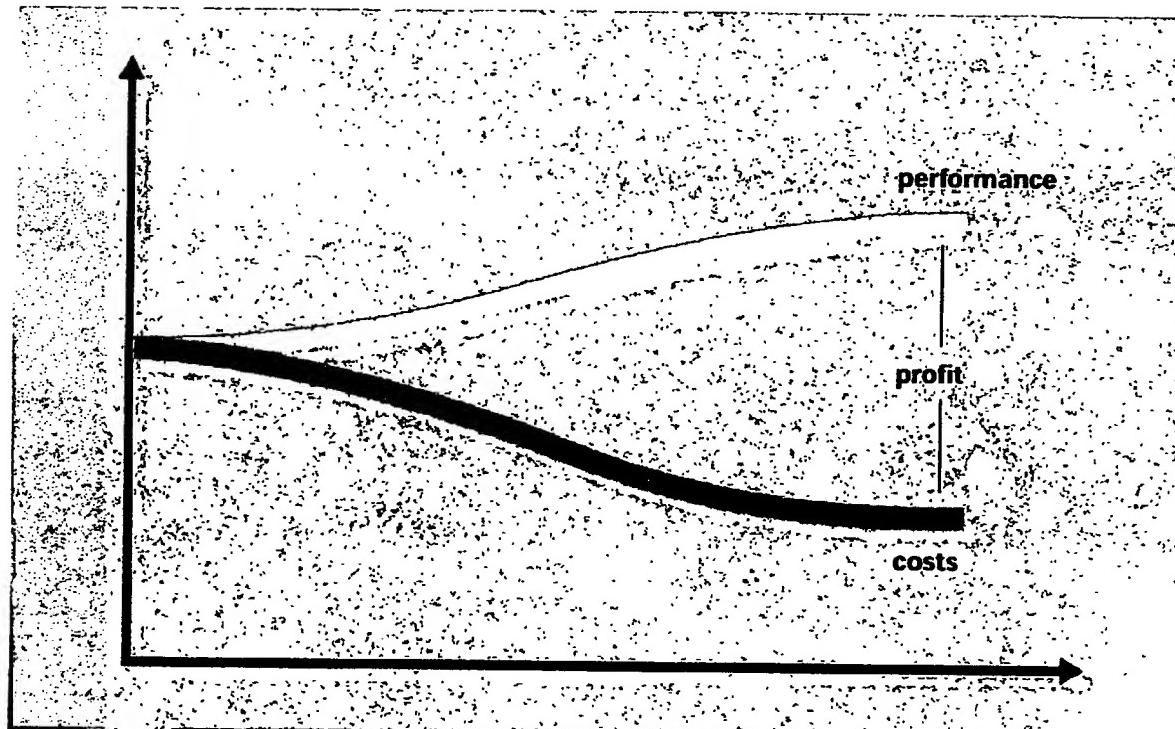
We deliver a

- ▷ structured approach,
- ▷ unique processes and procedures,
- ▷ individually customized solutions,
- ▷ defined, agreed maintenance strategies

Reduced complexity,
greater focus,
improved performance
and reduced cost -
all at the same time!



And the results are what you are looking for



SIMAIN has the score on the board when it comes to results.
SIMAIN sites have consistently achieved:

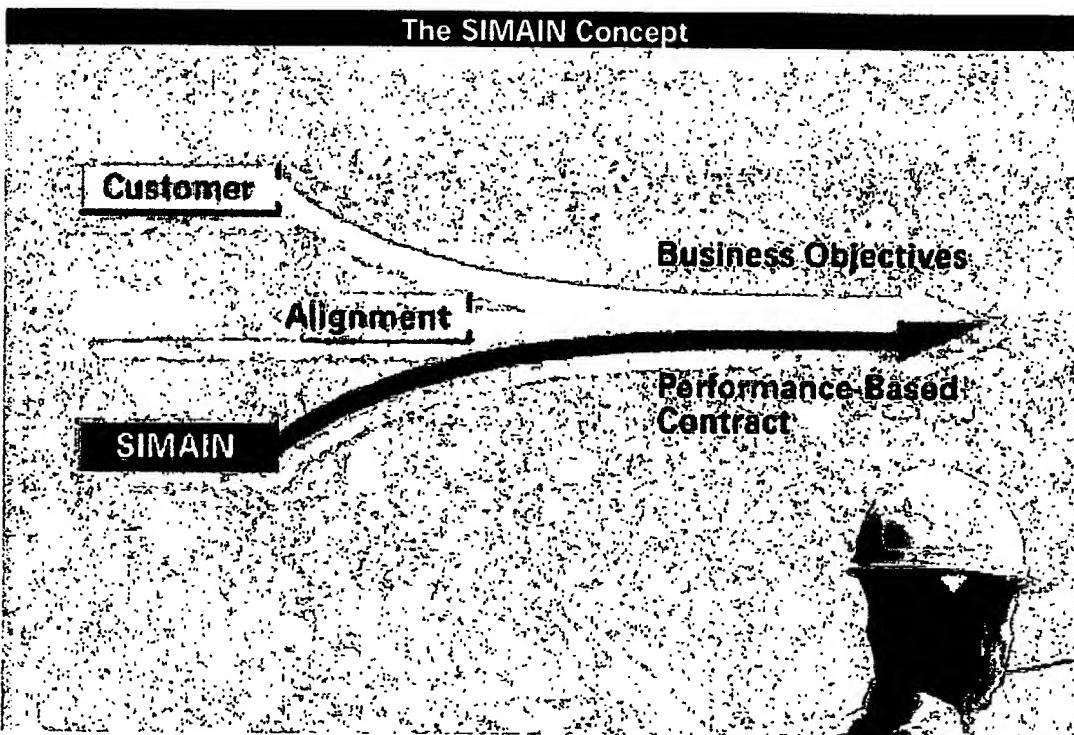
- ▷ performance improvement that increases plant profitability by 10 - 50%
- ▷ maintenance cost reductions of 10 - 30%

SIMAIN – successful in a range of industries.

- ▷ automotive plants
- ▷ chemicals
- ▷ mining
- ▷ postal services
- ▷ pulp and paper
- ▷ steel
- ▷ water treatment

With 296 branches in 69 countries, we can provide local service with global support. No matter how large or small, we have a solution for you. Read on to learn more about SIMAIN Business Based Maintenance.

What is SIMAIN Business Based Maintenance?



SIMAIN Business Based Maintenance is a concept which considers the business objectives of the customer and then develops a unique package to meet those objectives. This strategy development creates a partnership focussed on a win/win outcome for both parties

Performance-based contracts.

To reinforce the alignment between the parties and ensure the win/win outcome is achieved, a performance-based contract usually forms an integral part of the partnership. In this arrangement, the rewards to the contractor are measured by Key Performance Indicators and reflect the success of the relationship

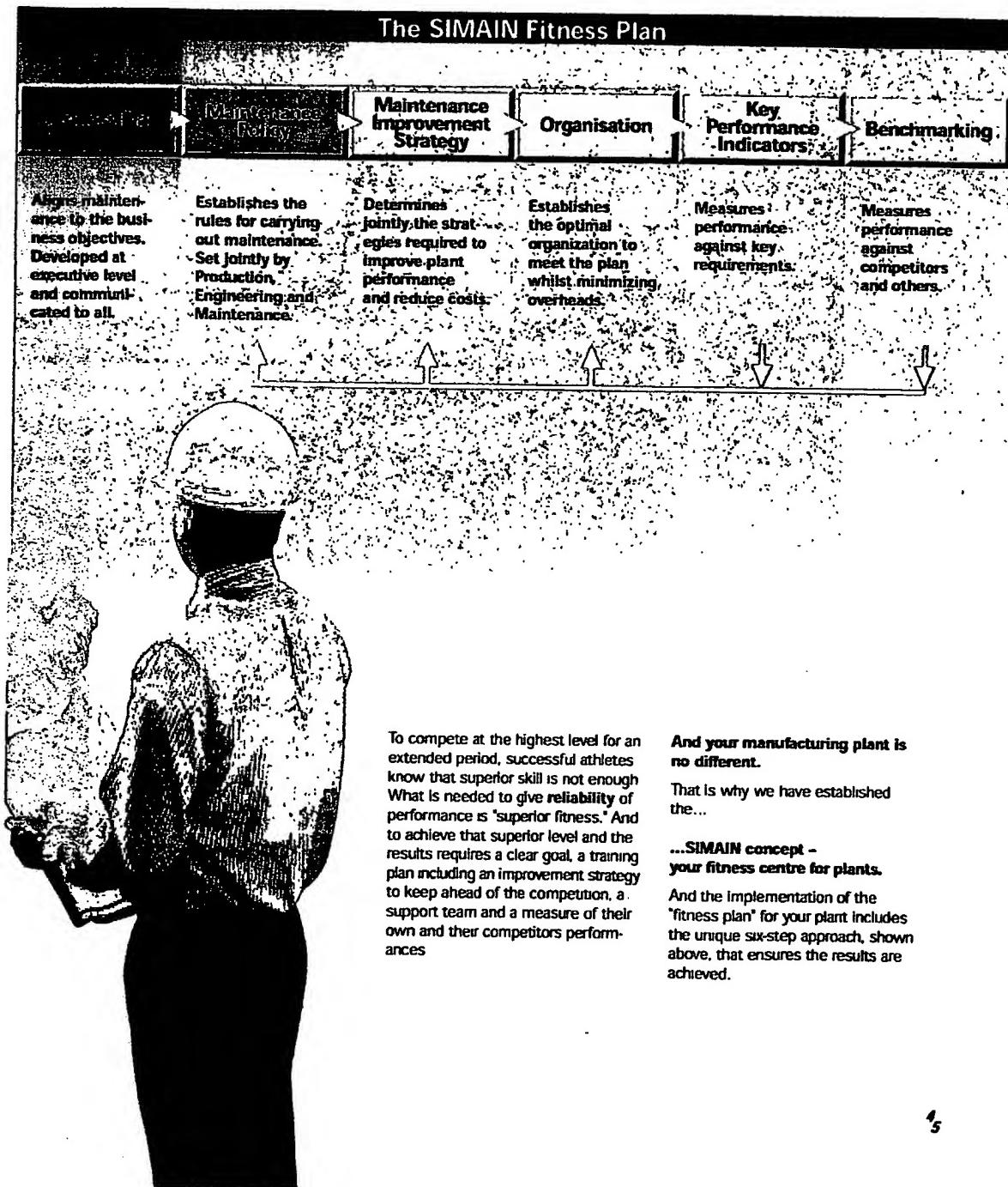
The nature of the Key Performance Indicators will depend on the type of the contract and the objectives of the business and are agreed in consultation with the client. On a total outsourced contract for Integral Plant Maintenance these can include

- ▷ safety
- ▷ plant availability
- ▷ reduced operating costs
- ▷

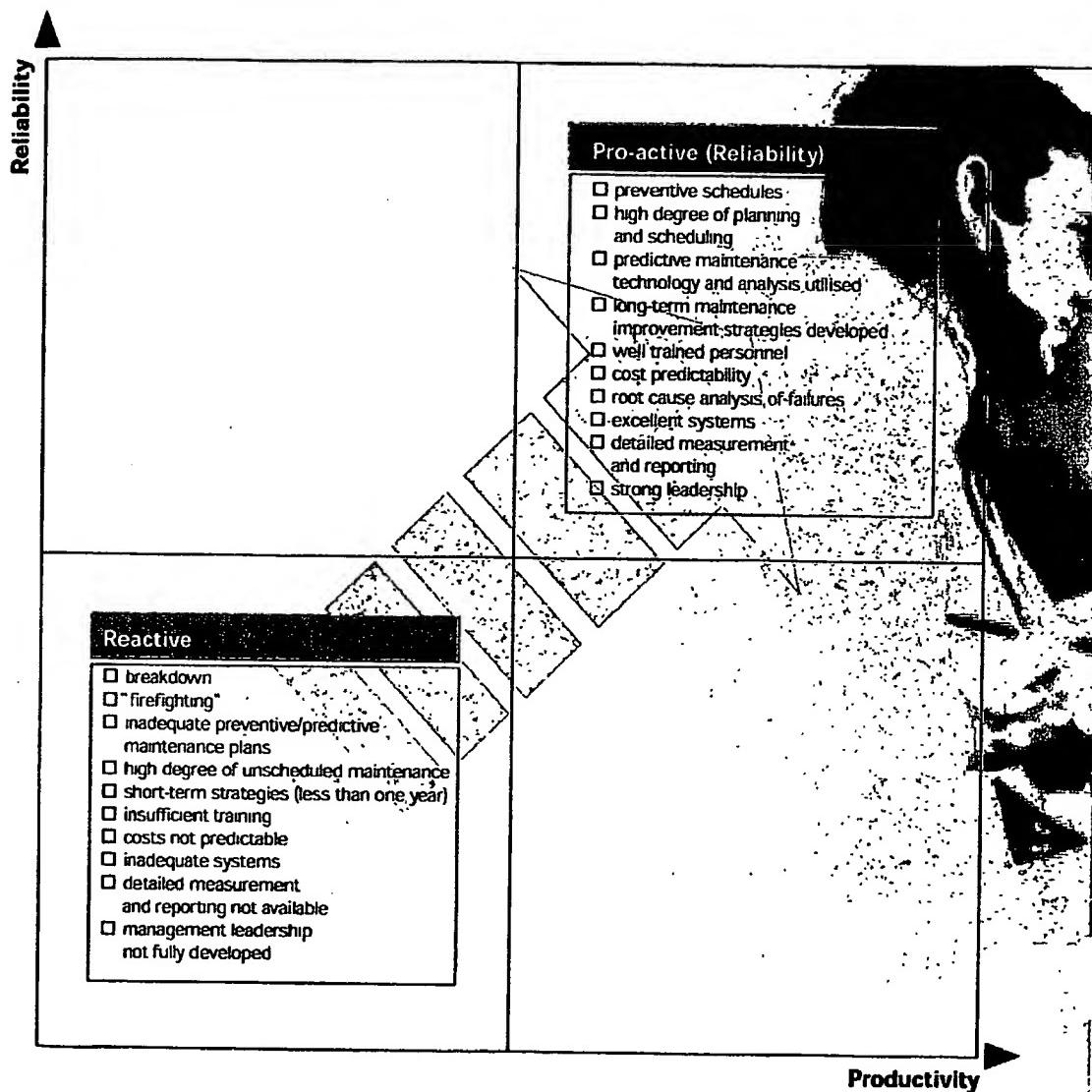
The weighting of the individual components depends on their importance to your business.



SIMAIN – Fitness for your plant



The shift to reliability



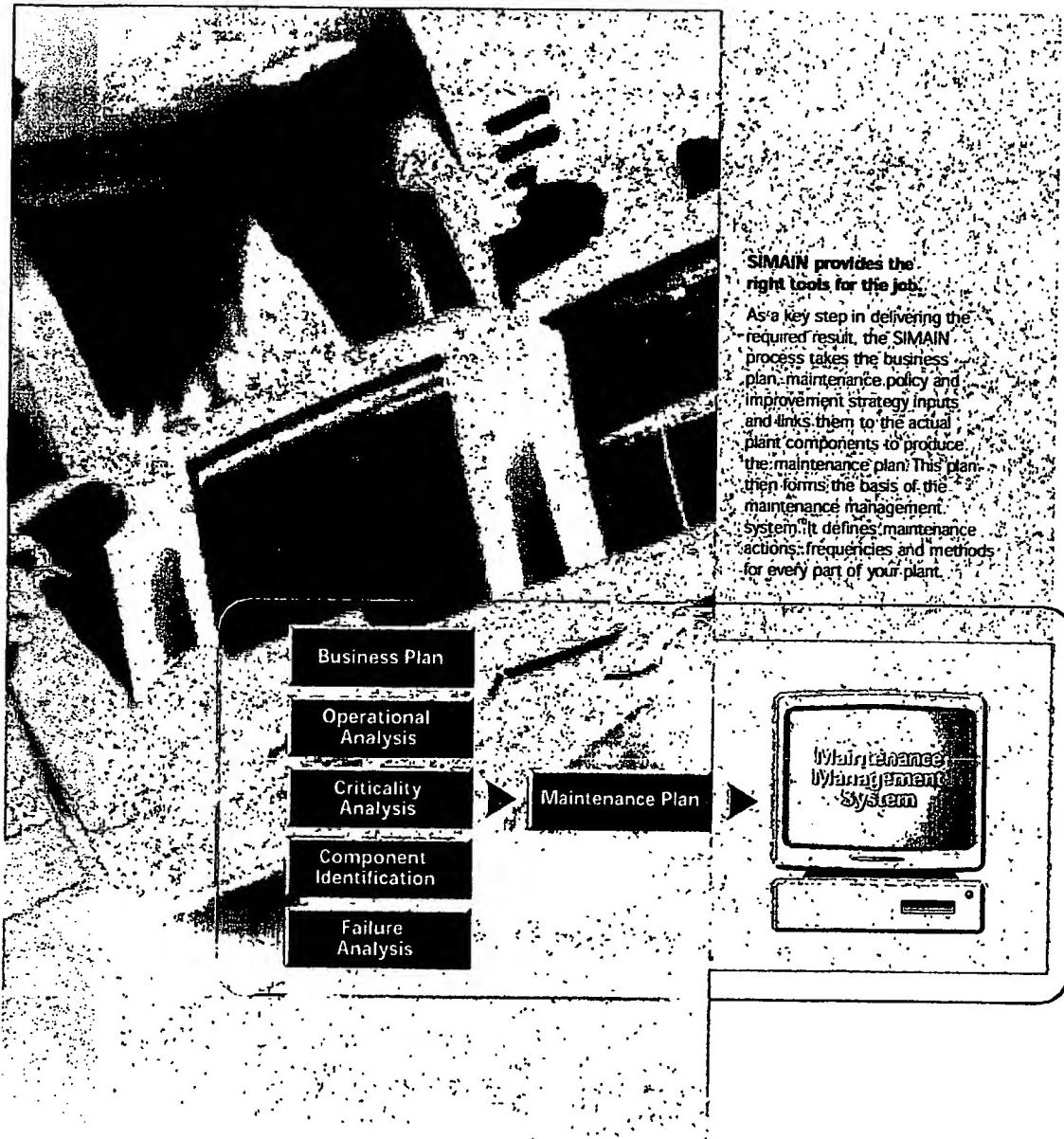
A pro-active strategy:
The key to reliability.

Reliable plant performance means more than just a good set of maintenance indicators, it delivers real bottom-line results including.

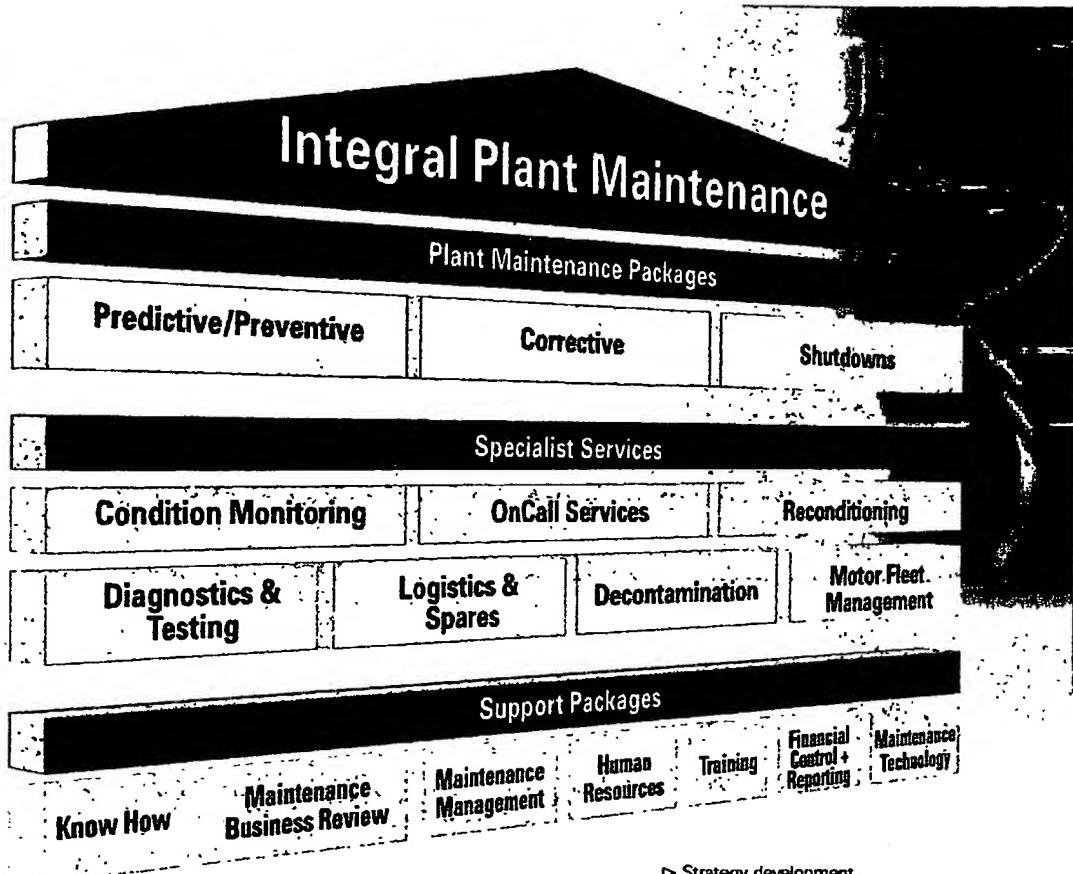
- ▷ increased capacity from existing fixed assets
- ▷ reduced costs, both production and maintenance
- ▷ improved on-time delivery of products
- ▷ reduced inventories

Siemens can help you understand where you are in terms of Reactive/Pro-active maintenance by carrying out a Maintenance Business Review. The review can be either a strategic overview or an in-depth analysis. As an outcome of this review, you can determine how you wish to proceed.

A systematic approach



The SIMAIN packages



The SIMAIN concept offers you the opportunity to choose the package that best suits your needs, from total outsourcing through to individual specialist services.

Integral Plant Maintenance

Total outsourcing of plant maintenance for electrical equipment, mechanical equipment and plant buildings, including:

- ▷ Strategy development and optimization
 - ▷ Predictive condition-based maintenance
 - ▷ Preventive maintenance
 - ▷ Corrective maintenance
 - ▷ Planned shutdowns
 - ▷ Spare parts management
 - ▷ Labour management
 - ▷ Maintenance management systems implementation and optimization
- Aligned to customer needs through performance-based contracts.

Tailored to your needs



Specialist Services

Take advantage of the expertise provided by our partners in the Siemens group of companies, including

- ▷ Condition monitoring - vibration, thermography, ultrasonics, oil analysis, motor current, alignment
- ▷ On-call services for equipment malfunction
- ▷ Reconditioning services for motors, switchgear, transformers, compressors and other equipment
- ▷ Diagnostics and testing from high voltage to electronic circuitry
- ▷ Logistics and spares management - minimize your working capital
- ▷ Decontamination services for electronic PCB's and electrical equipment
- ▷ Motor Management
 - logistics and spares management
 - maintenance
 - energy reduction
 - financing package

Plant Maintenance Packages

Tailored to meet the customer's needs from any combination of

- ▷ Predictive/Preventive maintenance
- ▷ Corrective maintenance
- ▷ Planned shutdowns
- ▷ Specialist services

To understand more about what some of these packages offer, ask for our brochures that explain the:

- ▷ Technical Support Program (TSP)
- ▷ Motor Management Program (MMP)

Support Packages

Every structure needs a strong foundation. Maintenance is no exception. For SIMAIN this is provided through our Support Packages. You have the benefit of all of these building blocks working for you, including:

Maintenance Management

- ▷ Strategy development and optimization
- ▷ Policy development
- ▷ Systems

Maintenance Business Review

- ▷ Through our unique process we can help you benchmark your current organization and build an improvement plan

Know-How

- ▷ To ensure Best Practice and experience is shared we have established our intranet-based information network

Maintenance Technology - to bring you the latest in:

- ▷ Condition Monitoring
- ▷ On-Line Sensors
- ▷ Decision Analysis Tools

Training

- ▷ All aspects of maintenance

Financial Control and Reporting

- ▷ Prompt, comprehensive analysis of past performance and future projections.

Human Resources

- ▷ The employment and management of the people performing the maintenance

Access to these support packages enables you to benefit from the worldwide experience with SIMAIN in a wide range of industries.

We can support you in all aspects of your maintenance work

Maintaining an industrial plant requires a combination of skills and resources to meet the varying needs of:

- ▷ Day-to-day first-line maintenance including emergency corrective work, cleaning, adjusting and monitoring plant health
- ▷ Routine planned maintenance on a corrective, preventive, predictive and reliability basis
- and
- ▷ Major outages for plant overhauls or modifications



SIMAIN offers a customized solution to meet your needs. And most importantly this can include the use of your own operating personnel to carry out all or part of the "first line" including inspections, lubrication and other activities as part of a TPM-based philosophy.

SIMAIN can keep your plant in top condition, too!

Pick out a comparable case:

- ▷ Car manufacture, China and Portugal
- ▷ Chemical production, Brazil
- ▷ Gas processing and collection, Germany
- ▷ Mining, Australia and Chile
- ▷ Nuclear research, Germany
- ▷ Oil and gas, Norway
- ▷ Open cut coal mining, Germany
- ▷ Open cut coal mining, Australia
- ▷ Paper manufacture, Australia
- ▷ Parcel handling centres, Germany
- ▷ Steel, cold-rolling mill with processing lines, USA
- ▷ Telecommunications, Denmark
- ▷ Thermal power station, Australia
- ▷ Water and sewage treatment, Australia
- ▷ Water treatment, Switzerland

Let's discuss your requirements.

Together with our partners we can provide custom-designed integrated maintenance services for your plants too. Covering every type of plant and equipment you wish to use, irrespective of the manufacturer and technology involved, we can

- ▷ Take full responsibility for maintenance of the whole or just part of your plant.
- ▷ Provide emergency service to compensate for workforce shortages and breakdowns.
- ▷ Operate and maintain specific plant and machines
- ▷ Provide maintenance consultancy and optimization.
- ▷ .

Call us, we look forward to putting you in the picture about the scope of SIMAIN Business Based Maintenance.

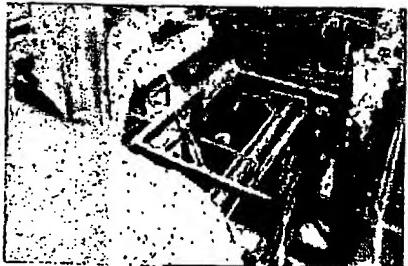
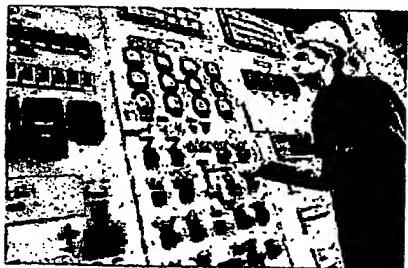


The people factor for your success

The SIMAIN Maintenance Organization

Based upon the solution chosen, we can tailor an organization to suit your needs.

We can provide our own resources or integrate your existing workforce into a new structure.



We have an unrivalled track-record worldwide in this integration approach, enabling us to utilize the skills and talents of existing personnel and ensuring those many years of experience and training of your staff are not lost.

The SIMAIN organizational structure is team-based to ensure the full involvement of all personnel

Wherever possible, the reward schemes for our employees are aligned to the performance-based structure for the business as a whole, thus ensuring a common focus throughout our whole team.

Competence you can rely on: Working with Siemens pays off many times over

1. A pool of experts

Our staff provides you with the best-practice know-how derived from hundreds of projects within the company. Working to your advantage, high-performance communications systems mobilize the expert knowledge of the many skill centres we operate throughout the world.

2. Motivated teams

Extensive autonomy through flat organizational structures, a high degree of customer focus including the benchmarks set by Key Performance Indicators, characterizes the way our maintenance personnel approach their work.

3. Proven maintenance strategies

We have the strategies to move from a reactive to a pro-active maintenance approach.

4. Information -

The "Performance Plus" Factor
No matter what your current or proposed system is, our staff have the expertise to set up a maintenance management system that will improve analysis and reporting.

5. Innovative diagnostic tools

The employment of state-of-the-art measurement and diagnostic systems enables us to accurately identify the condition of plant and machinery.

6. Core competence saves learning costs

Maintenance is our core business. Our competency in this field means a quicker implementation for you.

7. Individually customized contracts

The extent of services, the transfer of staff, performance-related bonuses, responsibility for plant operation, sale and lease-back schemes including the transfer of sub-plant and warehouse stocks... with us, you can discuss any arrangement.

8. Spare parts distribution and after sales service available worldwide

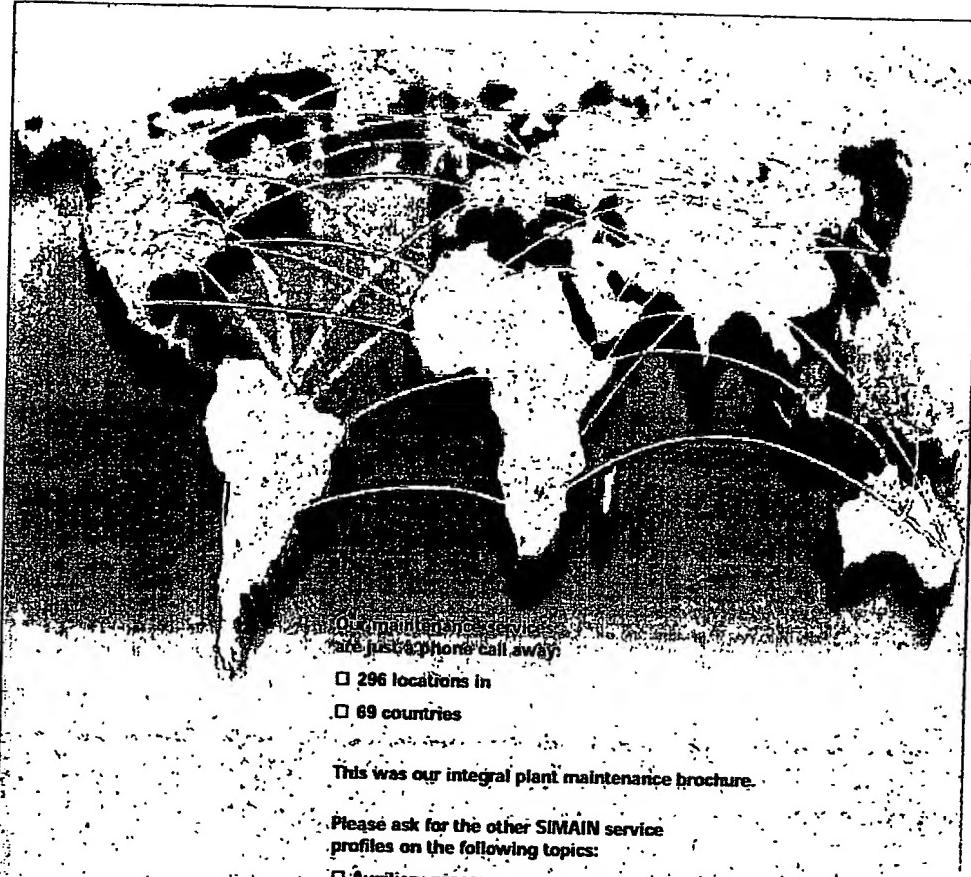
You can also benefit from our highly efficient international distribution network for replacement parts which are needed urgently in the event of breakdown. You can call our service centre 24 hours a day, 365 days a year for help - in any of 190 countries.

9. Flexible organizational structures

As a world market leader in plant automation, Siemens has thorough knowledge of the typical technologies in use - irrespective of the manufacturer. Where work outside our own specialization is required, we will procure this from other specialists, preferably local ones.



Worldwide support



Our maintenance service profiles
are just a phone call away.

296 locations in

69 countries

This was our integral plant maintenance brochure.

Please ask for the other SIMAIN service
profiles on the following topics:

Auxiliary process management

Electromechanical components and
switchgear maintenance

Infrastructure installation maintenance

Power plant maintenance

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Siemens Aktiengesellschaft

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At your service all over the world

SIEMENS

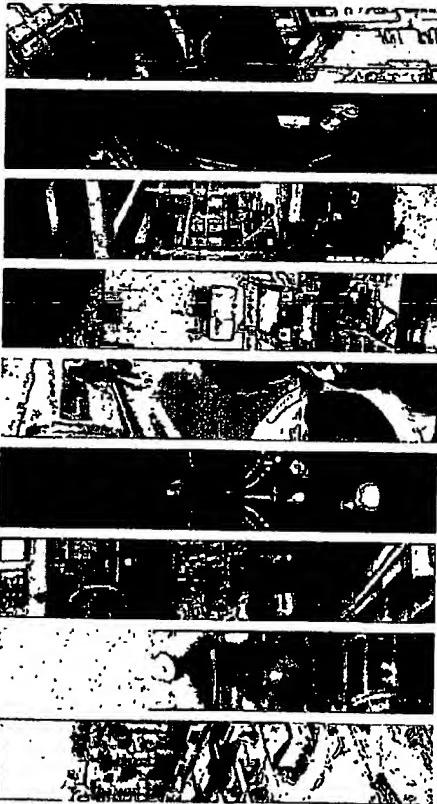
Our service for
your productivity



Introduction

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customized services offered locally by SiemensIndustriService for their partners is given below in line with our motto "Your Success is Our Goal".

we are around the clock 24 hours a day, 365 days a year

industry, energy and infrastructure, we can make a significant contribution to making your company fit for international competition

With the aid of our services, you can achieve greater productivity, higher reliability, reliable safety and lower costs. We make use of latest state-of-the-art experience gained in numerous domestic and specific applications. You can also make use of our extensive knowledge in the application of automation, information, power, instrumentation and drive technology. An overview of the extensive

Siemens sets in motion there is no room for ongoing improvement. To help you remain competitive in a global marketplace our contribution is ongoing optimisation of the productivity and economic efficiency of your technical plant - throughout the entire life cycle of the plant.

SiemensIndustriServices offer best-practice support for successful planning and execution of all work associated with your plants - irrespective of the type of work, technology and manufacture involved. As one of the world's largest technical service providers for

SiemensIndustriService

Technical Services provided by Siemens help your plants up to the mark throughout their lifecycle

SEPAIT - General Contracting

All services from initial planning to the finished plant.

SI-131373 - On-site and Logistics Services

Fault elimination for products, systems and plants - requirements-oriented in four service lines

SIMAIN - Integrated Plant Maintenance and Auditing

Maintenance tailored to help you achieve your business objectives

SIT - Industry - Information Technology

The manufacturer-independent, system-independent, information technology integrates

SERVTRONIC - Manufacturing Services

All the services around you electronic requirements

SIBRAIN - Knowledge Management

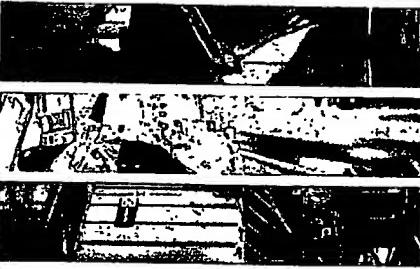
Know how to know now

References

Exemplary for successful partnerships

Photo

*Christiane Stummie
Dr. Albrecht Mertinger
Manager
Technical Services*



Siemens Industrial Services

Technical Services provided by Siemens keep your plants up to the mark throughout their lifecycle

The world has turned in our favor. And today, it's accessible on a worldwide scale. However, you need a company that partners in order to successfully meet international competition and to keep up with technical development. Qualification of numerous internal programs as well as cost and asset-affecting strategy. Such processes can, for example, be taken by Sunbeam Industrial Services. The world (English) provider of technical services, nearly 22,000 employees in 260 locations around the globe are available for construction and expansion of your plants.

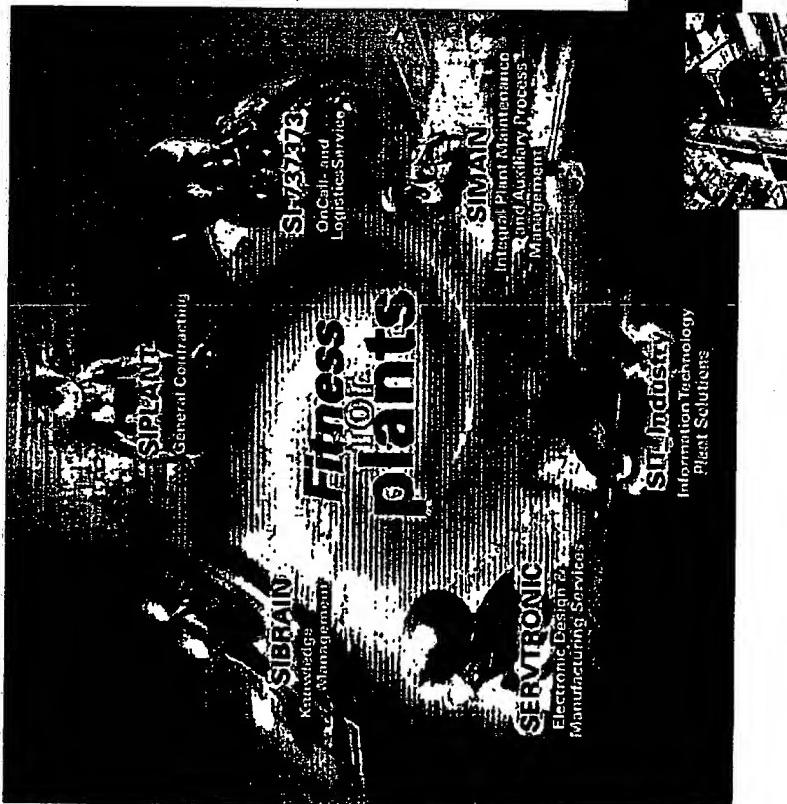
SII: Industry supplies manufacturer end system solutions. IT solutions tailored to the needs of your branch staff. Intelligent software for complex systems with substantial customer benefits. We combine world-class components and the associated data infrastructure to provide value-adding solutions between the ERP and the customer level - and we can also supply the necessary IT-infrastructure.

SEWAG/Baileigh - The Electronic Design & Manufacturing Service for embedded elements is a safe source for the development of electronic solutions. We can supply many just as the electronics - printed circuit boards, equipment and systems - our objective is provision of an all-encompassing solution. Training in terms of complex solutions. Guidance in terms you see it and reliably. We can operate using a highly individualised approach, combining system potential and by tapping

SUREBRAIN is a new knowledge based service which helps your company to gain a competitive advantage by developing your employees' know-how. We individually design our **Technische** education and training programs according to the needs of our customers by using the latest methods and learning techniques.

SIRMAN - Business Based Maintenance is a mutually-agreed concept, for maintenance and management of sustainability processes based on your business objectives - for industrial, power and infrastructure applications. We provide maintenance services for many of our systems and plants of Siemens. We also offer equipment and facilities of all kinds of manufacturers.

SIRMAN - Business Based Maintenance is a mutually-agreed concept, for maintenance and management of sustainability processes based on your business objectives - for industrial, power and infrastructure applications. We provide maintenance services for many of our systems and plants of Siemens. We also offer equipment and facilities of all kinds of manufacturers.



SIPLANT · General Contracting

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SIPLANT brings your plant up to speed.

Planning of a plant requires a lot of thought because considerable investments are involved. It is therefore of utmost importance that the right partner be chosen from the very start. We from SIPLANT are experts for new construction, extension and modernization in addition to modernization of plant sections and of complete plants.

Our experience shows that it is best, you by offering professional management at all stages of the project - from initial planning and design through hardware and software engineering to erection and commissioning of the plant.

Using modern, fast-proven methods and techniques based on maximum economic efficiency and open to future developments

With local knowledge and global strength, Worldwide presence at approximately 300 installed locations,

With substantial references in nearly all branches of industry and thus with 150 years of experience in every corner of the globe

**SIPLANT Global strength -
around the world.**

"All business is local"! We combine our global strength with local knowledge - a profitable advantage for both our German and international customers. Our specialists who are equipped with well-grounded technical and branch-specific know-how, can develop solutions precisely tailored to your needs. We also mitigate existing systems and customer-specific standards and regulations in addition to the relevant national standards and quality standards.

We are your partner for plant construction / system integration / modernization.

Your benefit is the yardstick against which we evaluate the suitability of our technical service.

Our specialists, on whose efficiency and competence you can always rely, are available all over the world.



Our experts, always at your disposal, can offer you the required information and recommendations for the execution of your project.

SIEMENS

Technical Support Program Tailored for improved efficiency



fitness
for
plants

SIPLANT
General Contracting

SI-737373
OnCall and Logistics Service

SIMAIN
Engineering Services
Plant Construction
Plant Operation & Management

SIT_Industry
Information Technology
Plant Solutions

SERVTRONIC
Electronic Design &
Manufacturing Services

SIBRAIN
Knowledge Management

Siemens Industrial Services

Industrial Projects
and Technical Services

*your success
is our goal*

Switch over to lower costs

Worldwide experience in business based maintenance.

Your business strategy should take in account the ongoing changes resulting from globalization, technical advances and increasing competition. The maintenance is an important part of this strategy.

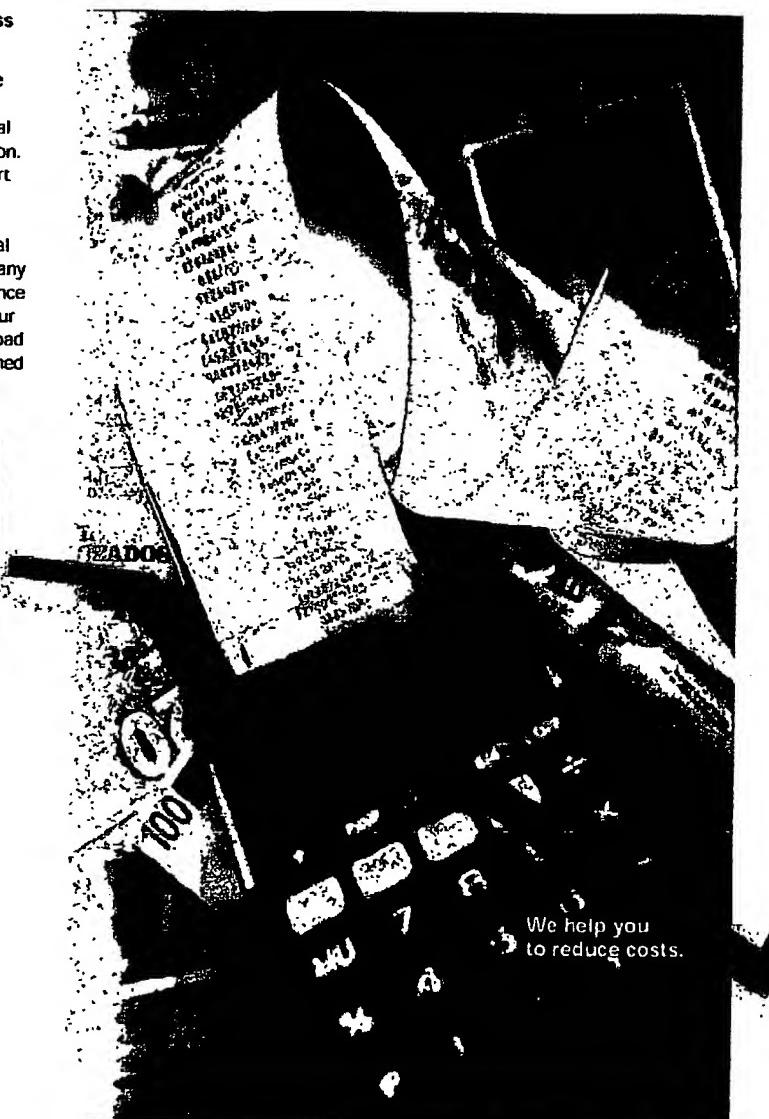
In developing the Siemens Technical Support Program (TSP), we used many years of experience and the confidence gained by excellent relations with our customers. The program offers a broad range of maintenance services designed to provide comprehensive, vendor-independent solutions.



Recognizing your best choice.

The Technical Support Program provides the following benefits to your organization:

- ▷ Increased equipment reliability and availability
- ▷ Reduced costs through a proactive Business Based Maintenance approach
- ▷ Minimized downtime
- ▷ Optimized asset management
- ▷ Capital solutions
- ▷ Fast response when and where you need it



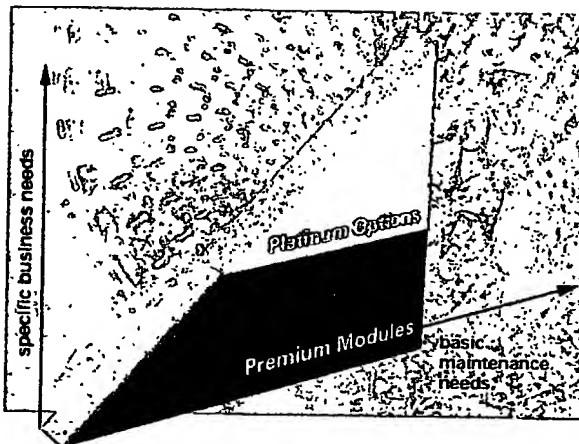
Technical Support Program

Premium Modules

Your choice for maintenance excellence.

Our Technical Support Program distinguishes between.

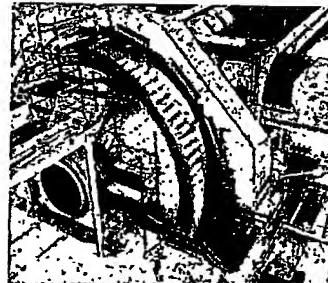
- ▷ Premium Modules which are technology-oriented and cover your basic maintenance needs
- ▷ Platinum Options that take you into Business Based Maintenance solutions, tuned to the special needs of your business



The Premium Modules focus on increased reliability and availability of

- ▷ Power generation and distribution equipment
- ▷ Automation systems
- ▷ Drive systems
- ▷ Instrumentation and control
- ▷ Information technology systems

They can add the bottom-line dollars that drive your business.



Technical Support Program – Premium Modules

Support Services	Electrical Distribution System Services		Automation & Drive Services
Power System Studies	Switchgear & Switchboards	Emergency Systems	Control Systems
Condition Monitoring	Cable & Busway	Grounding Systems	SCADA Systems
Training	Circuit Breakers & LV, MV, HV Switches	Transformers	Drive Systems
Routine Operational Checks	Direct Current Systems	Capacitors & Reactors	Automation Systems
Emergency Response	Protective Devices	Metering & Energy Mgt.	Motor Control Systems
Program Management			

Technical Support Program

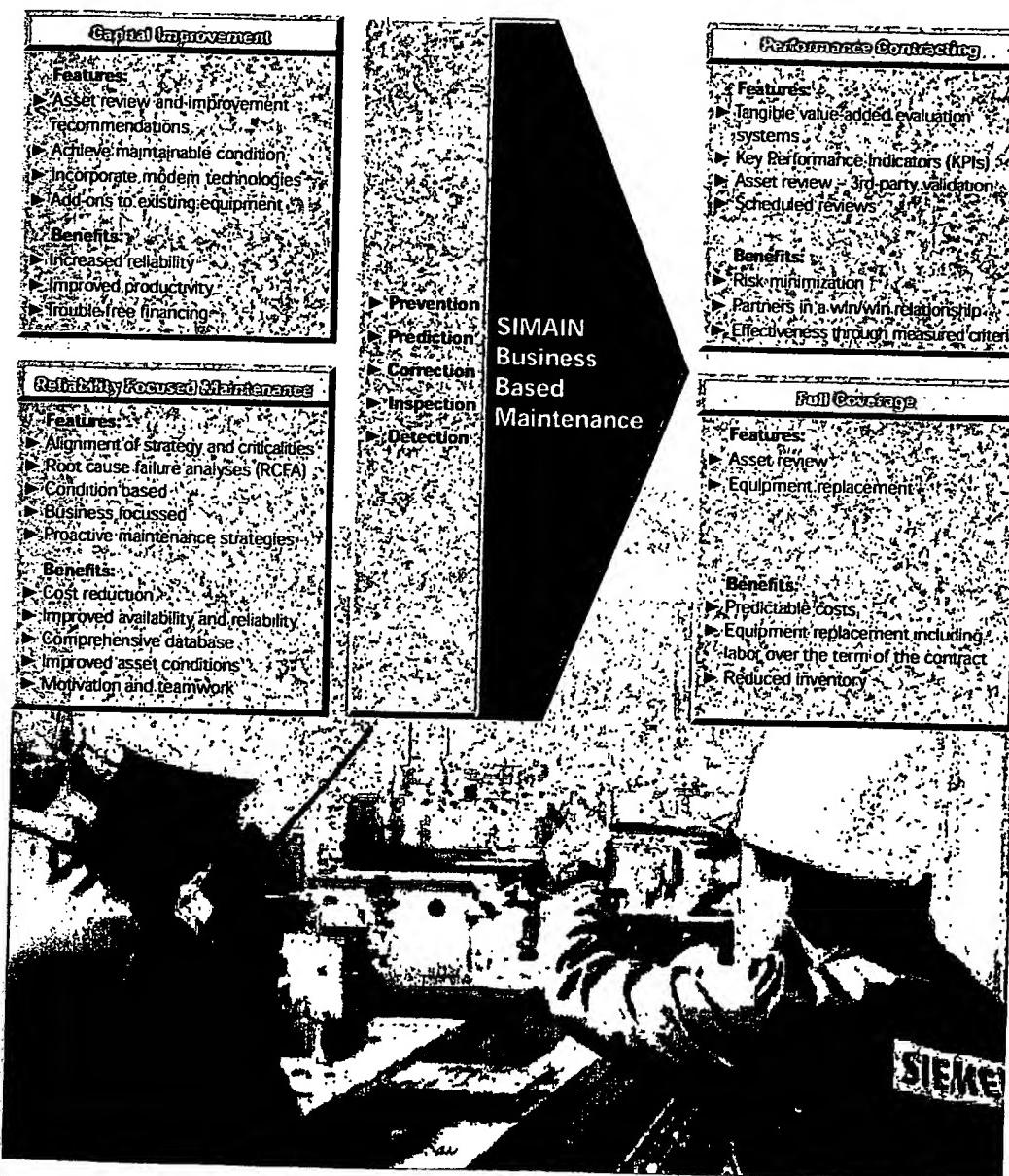
Platinum Options

Maintenance alignment to your business objectives.

By selecting appropriate premium modules, enhanced by platinum options, you ensure maintenance

excellence. Any maintenance problems will be spotted and corrected early,

before they can develop into expensive breakdowns.



You have the choice: From service provider to business partner

It's more than just a job.

SIMAIN Business Based Maintenance is a process that first defines your equipment and maintenance needs in terms of your business goals. The next step is to develop uniquely tailored maintenance strategies that will help you to reach your objectives. These proactive strategies, complemented by modern monitoring technologies, will improve your equipment reliability and positively impact the bottom line. Most importantly, the success of these changes will be achieved by working closely together with your employees to sustain improvements.



Our commitment is to develop solutions that address your business objectives and create a true win-win partnership, with risk-sharing tied to your key success factors.



Discover the better alternative for electro-mechanical maintenance



Let's discuss your needs:

We can provide customized maintenance services for your business, covering every type of plant and equipment irrespective of the manufacturer or technology.

Worldwide support next door:

- ▷ 296 locations
- ▷ 69 countries

Ask for the other SIMAIN service profiles on the following topics:

- ▷ Auxiliary process management
- ▷ Integral plant maintenance
- ▷ Maintenance for infrastructure and transportation
- ▷ Power plant maintenance

For more information contact your local Siemens office or the address below.

You can learn more about us on our web page www.siemens.com/simain

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Siemens Aktiengesellschaft

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SIEMENS

**Effizienzsteigerung durch
Nebenprozeß-Management**

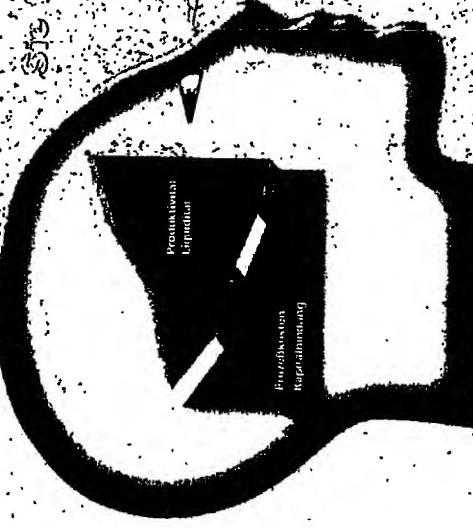


Anlagenbau und
technische Dienstleistungen

Probdruck

Ihre Nebenprozesse
sind unsere Kernkompetenz

Stellen Sie fokussiertem Ihren Kernprozess



Stimmen Sie Ihre Produktivität und Liquidität - mit Siemens Industrie Services

auf Kernkompetenzen! Ein wesentliches Element ist hierbei die "make or buy" Entscheidung von Nebenprozessen

Wir kümmern uns um Ihre Nebenprozesse in den Bereichen Energies, Facilitys und Ersatzteil-Logistik!

Durch Fremdvergabe dieser notwen-

digen, jedoch nicht als Kern-

Kompetenz betrachteten Prozesse

Industrie und Wirtschaft befinden sich im Wandel. Forschende und wendende Weltbewerbsdruck in diesen Branchen stellen die Unternehmen vor große Herausforderungen. Zulieferer, Hersteller und Handel organisieren und koordinieren ihre Abläufe sowie die entsprechenden Schnittstellen neu, um Kostenreduktionspotentiale zu erschließen und sich an die veränderten Marktanforderungen anzupassen. Diese Umstrukturierung von Organisation und Produktion führt schließlich zu einer konsequenten "Konzentration

Nebenprozesse können aufgrund fehlender Etats und zu kurzer Amortisationszeiträume häufig nicht realisiert werden. Damit Sie diese Maßnahmen effizient durchführen können und Ihre Anlage auch morgen noch Gewinnbringend auf dem Laufenden bleiben, bietet Ihnen Siemens Industrial Services - zusammen mit Siemens Finance & Leasing, den Betrieb, Instandhaltung und der Finanzierung - für Ihre Nebenanlagen

- und das alles herstellerunabhängig

Wir bündeln unser Know-how für

technische- und finanzielle

Lösungen und Schmäler für Ihre

Nebenprozesse ein an Ihre

Bedürfnisse angepasstes

Leistungsangebot

Stimmen Sie Ihre Produktivität und

Liquidität -

mit Siemens Industrie Services!



Ihre Nebenprozesse stehen bei uns an erster Stelle...

Energy Services



**Industrial Facility
Management**

- Leistungsorientierte Vertragsgestaltung
 - Der Aufbau einer technisch-wissenschaftlichen Dokumentationsbasis
 - Wir garantieren Einsparungen

WANR bietet Ihnen

 - WANR kümmert uns um die laufende technische Betreuung und Pflege der Maschinen und Anlagen.
 - WANR kümmert sich um die zugehörigen technischen Gewährleistung und Errichtungen

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- > zentrales Projekt ist die Einführung eines integrierten Betriebswirtschaftlichen Informationssystems (IBS) zur Unterstützung der strategischen Planung und Steuerung des Betriebes
 - > IBS soll unter Berücksichtigung der Pro-
duktions- und Absatzstruktur
 - > Die Konzeption Realisierung sowie
den Betrieb seines Instanzdurchlaufes
stehen als zentrale Kompetenzen
und Maßstabe
 - > Die Erfassung, Planung und Optimie-
rung von Industriearbeitsschritten
mit DV-Umsetzung und deren
Komponente bis zum kompletten Pro-
zess
 - > Durchführung der instanzne-
utralen Datenflüsse zw. IBS und inter-
nationalen Systemen



Logistics Service

Wir verfügen über nunmehr 150 Jahre Erfahrung in der Energietechnik Aufgrund dieses Know-hows sind wir in der Lage Ihre hochkomplexe Anlagen zur Energieerzeugung und -verteilung kontinuierlich zu pflegen. Unsere Spezialisten betreuen Ihnen gesamte Anlagenbestände, und zwar fachseitig überprüfend

- Wir übernehmen für Sie**

 - » Betriebsführung
 - » Contracting
 - » Instandhaltung

Diese gilt für alle Energieformen

 - die Sie nutzen
 - » Dampf
 - » Druckluft
 - » Elektrizität
 - » Wärme

Das gilt für alle Energieformen
die Sie nutzen

Bearbeiten Sie uns mit der kompletten Bereitstellung der benötigten Energie oder nehmen Sie nur einzelne unserer Servicesleistungen in Anspruch - wir garantieren Ihnen umfassende Energie

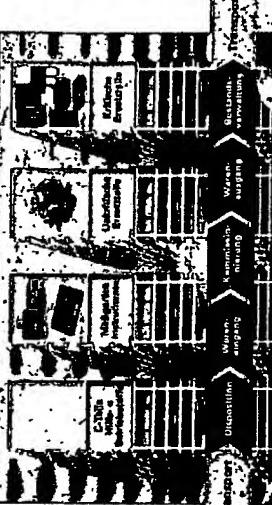
- ... und Sie produzieren
günstiger!



Durch eine konsequente Umsetzung unserer "Supply chain Philosophy" entwölft sich für Ihr kreativisches Persönlichkeit und kreativitätsförderndes Verhalten von einem starken Materialiendruck. Ein zu einer engen Beratung führt.

- ... damit alles da ist wann,
wo und wie Sie
denn **hier oben!**

gewerbegebiete und Gewerbebetriebe



657-190370-03-27000

steigende Materialverfügbarkeit Produktivität und Verfügbarkeit

sinkende
Kapitalbindung
Fixkosten
Variable Kosten

**Freie Fahrt für
Ihre Produktion!**

Nebenprozeßmanagement und Financial Services Hand in Hand – Synergien die sich für Sie bezahlt machen...

Durch die Verbindung von technischen und finanzwirtschaftlichen Dienstleistungen eröffnen sich ganz neue Möglichkeiten, um sich den Herausforderungen unserer Industriegesellschaft erfolgreich zu stellen. Zur Erforschung dieser Möglichkeiten sind jedoch sowohl technische als auch finanzwirtschaftliches Know-how zwingend erforderlich. Durch die Zusammenarbeit von Siemens Industrial Services und Siemens Finance & Leasing verschmelzen nicht nur die erforderlichen Kompetenzen

Vielmehr sind wir der Serviceprovider, der Ihnen Sicherheit und Flexibilität bei Finanzierung und Leistungserbringung garantiert. Bauen Sie auf langfristige Sicherheit, verant mit Flexibilität und Kreativität und nutzen Sie unser neues Leistungsangebot im Nebenprozeßmanagement. Verschaffen Sie sich den unternehmerischen Freiraum den Sie brauchen!

Umfassende Optimierung Ihrer Nebenprozesse – Produktivitätssteigerung inklusive
Von der kompetenten Beratung und Konzeptionierung bis hin zur Realisierung - wir helfen Ihnen umfassend Ihre Nebenprozesse zu optimieren. Eventuell anfallende Investitionen zur Optimierung bzw. Modernisierung Ihrer Nebenprozesse werden von uns mit Hilfe individueller Finanzierungs- oder Leasingmodelle realisiert. Wir tragen so dazu bei, Ihre Liquidität und Ihre finanziellen Ressourcen zu schonen und gleichzeitig Ihre Produktivität zu steigern.

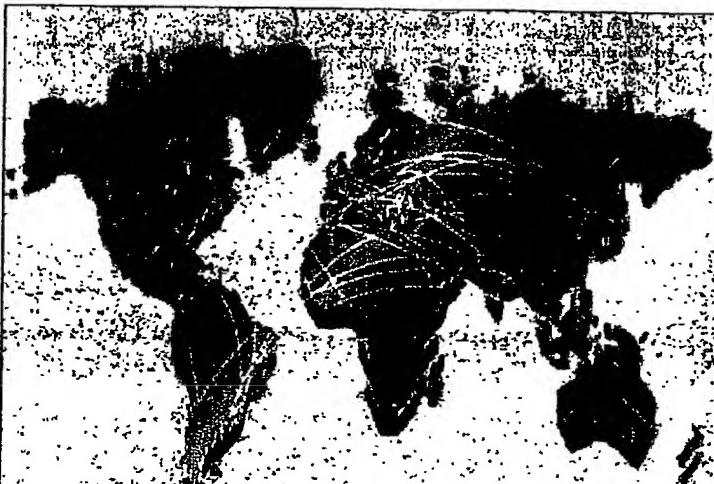


Das Sale & Lease-Back Modell – ideal für Ihre Erfolgsbilanz.
Durch Leasing können Sie auch Ihre Fixkosten weiter reduzieren. Ein überzeugendes Leasingmodell hat sich hier bereits weithin bewährt. Sie verkaufen uns Ihre prozeßbezogenen Anlagenbausteme und leasen oder mieten diese wieder zurück. Die Verfügbarkeit dieser Bausteme ist für Sie dadurch gewährleistet. Sie haben darüber hinaus jedoch Ihre Liquidität und damit Ihren Investitionsrahmen nachhaltig erhöht.

Nebenprozeßmanagement – ein Leistungsangebot mit dem Sie rechnen können, individuell und innovativ!

**... Synergien,
die sich für
Sie bezahlt
machen!**

Nebenprozeß-Management - für Erfolg ohne Grenzen



immer in Ihrer Nähe

Wir verfügen über ein weltumspannendes Netzwerk, bestehend aus Siemens Niederlassungen, Stützpunkten, Logistik-Centern und können Ihnen daher überall schnelle und kompetente Betreuung vor Ort gewährleisten. In allen Fragen zum Thema Nebenprozeß-Management sind wir für Sie weltweit zur Stelle.

Die ganze Welt der Instandhaltung: mit 296 Standorten in 69 Ländern der Welt

Durch globales Best-Practice-Sharing setzen wir neue Maßstäbe auf dem Gebiet der Industrial Services. Überlassen Sie nichts dem Zufall und nutzen Sie unser Know-how zu Ihrem Vorteil! Effizienzsteigerung durch Nebenprozeß-Management.

Weitere SIMAN Leistungsprofile zu Instandhaltungsthemen:

- Integrale Anlageninstandhaltung
- Kraftwerks-Instandhaltung

Instandhaltung von elektronischen Komponenten und Schaltanlagen

Instandhaltung für infrastrukturelle Anlagen

Rufen Sie uns an oder schicken Sie einfach ein E-Mail und Sie erhalten umgehend das gewünschte Informationsmaterial.

Für eine individuelle Beratung in allen Fragen zur Instandhaltung stehen wir Ihnen selbstverständlich jederzeit gerne zur Verfügung.

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Fax: 09131/743655
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Siemens Aktiengesellschaft

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SIEMENS

SIMAIN - excellent results for
your power plant



Industrial Projects
and Technical Solutions

your success
as our goal

SIMAIN helps you to attain your business targets for power plant maintenance

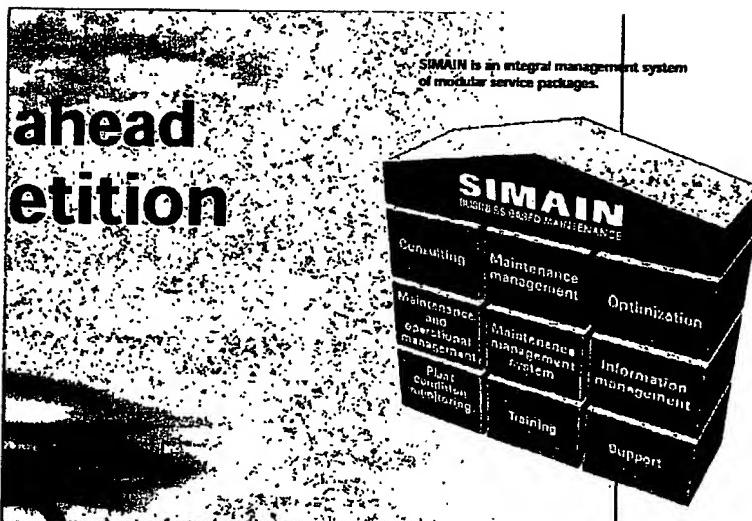


SIMAIN BUSINESS BASED MAINTENANCE

- Your targets become ours
- Quality that meets your requirements:
price - performance - on-time service
- Assists further development of your operational know-how
- Optimizes your processes to meet your goals
- Provides you with the latest technology to optimize availability and logistics
- Reduces overall costs and maintains constant quality standards



Siemens offers technical services in over 200 countries. We specialize in the design of maintenance facilities specifically to the demands of our worldwide power plant service network.



ahead edition

Today's power plant market
 Crucial changes are currently taking place in the power-plant market worldwide. The deregulation of electricity generation markets has placed the supply networks at everyone's disposal and has increased competitive pressures. As a power plant operator, one is compelled to exploit every available opportunity to reduce operating expenses.

In a deregulated market, only the best is good enough

Siemens maintenance and operational services are committed to the highest standards. We at Siemens can offer specialists in engineering, technical support and business management. Our range of services is directed pre-

cisely towards your entrepreneurial needs

The deregulation of the power market calls for new, innovative solutions

Outsourcing auxiliary processes enables you to optimize your cost structure. This allows you to concentrate on management of core processes and valuable plant expertise, while leaving the rest to qualified service providers.

As a result, your fixed costs are reduced

The advantages for you

At SIMAIN we optimize all maintenance procedures and operational management. We are your dependable, professional and cost-effective partner

Can maintenance costs be reduced by up to 50%?

Those responsible for power plant operation today are required to constantly optimize their processes. SIMAIN's Business Based Maintenance management implements commercial targets according to your priorities. Experts forecast a reduction in costs of up to 50% depending on the condition of the plant.

Our maintenance service meets your entrepreneurial targets

Optimized operational and maintenance costs

SIMAIN optimizes servicing cycles and maintenance work according to the following principle as much as necessary and little as possible. Business Based Maintenance utilizes computer-aided diagnostic systems. We function as an extension of your organization to continuously improve the profitability of your plant - involving your own staff if you wish to. Long-term partnership schemes are available to help you forecast your budget.

Common objectives

- Plant safety
- Improved return through reduction in maintenance and operating costs
- Extended plant life ensures the return of investment pays off longer
- Lasting high level of plant availability
- Reduction of planned and unplanned down time
- Preventive maintenance based on the plant's condition
- Performance enhancement
- On-going staff training
- Retrofitting work
- Emission reduction
- Minimized additional investment



New standards

Tell us your entrepreneurial targets for your plant and on the basis of this information we can fully recommend the appropriate maintenance and business strategy. Using state-of-the-art methods and tools we can organize the maintenance processes and the staff organization required to implement them.

Saving can be easily evaluated from the key parameters listed below:

- Installed capacity per employee
- Annual energy output per employee
- Cost of operation and maintenance per MWh generated
- Plant availability

We are always at your disposal for consultation at your convenience.



33

When building a power plant it becomes increasingly demanding to have detailed technical management on the outside. In this respect, two areas are particularly important: maintenance and plant management, which makes considerable potential for optimization.

Operational optimization through outsourcing

Outsourcing is a holistic optimization technique, which has been used for many years throughout the world to increase the competitiveness of innovative industries. This technique was pioneered by the motor vehicle and pharmaceutical industries.

The fundamental principle is to have an external source that is responsible for all non-core business and frees the client to concentrate on the more important core processes.

Selective Outsourcing can fulfill your economic objectives

Your top priority as a power plant operator is to run the power plant in the most economically effective way. With the economic targets in mind you have to define concrete tasks, have them implemented and monitor their success. This is where the SIMAIN concept comes in.

We take over responsibility for a variety of tasks which are outside your field of expertise. Our range of services extends from the management of peripheral plant maintenance right through to full plant operation covering all electrical, mechanical and business components, regardless of the manufacturer.

In every situation, outsourcing is specifically mapped and designed to guarantee success and profitability.

Leasing schemes

In certain cases, Siemens also offers you leasing schemes for auxiliary processes to enable you to optimize asset management. This approach allows you more flexibility when making decisions about strategic plans for the future.



How much outsourcing is profitable for you?

Hands-on experience in every plant.

Our global power plant experience makes us second to none when it comes to operating highly-complex power generation plants and distribution systems. Instead of having numerous service partners, you can just rely on us. Siemens offers you expert advice for all your servicing needs. Siemens engineers will also apply all their skill and expertise when involved with other manufacturer's plants.

A partnership which pays off

A Siemens maintenance partnership designed to follow and assist your business goals. In today's world does it make sense to do all maintenance work in-house? Let us assist you in the ideal balance between our services and your in-house work.

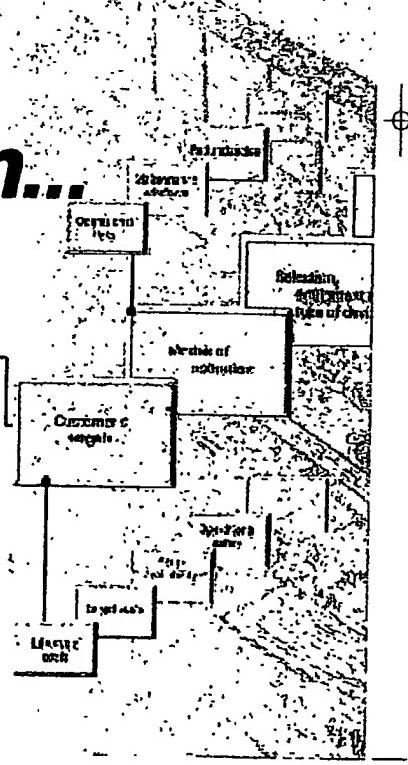
Total concentration on
your core processes

Focusing your attention on the actual production-related processes can improve your cost structures and increase the flexibility of your resource planning. Even if you entrust the entire operation of your power plant to SIMAIN, it will be in safe hands. We already have successful global experience of establishing joint operating companies with power plant owners.

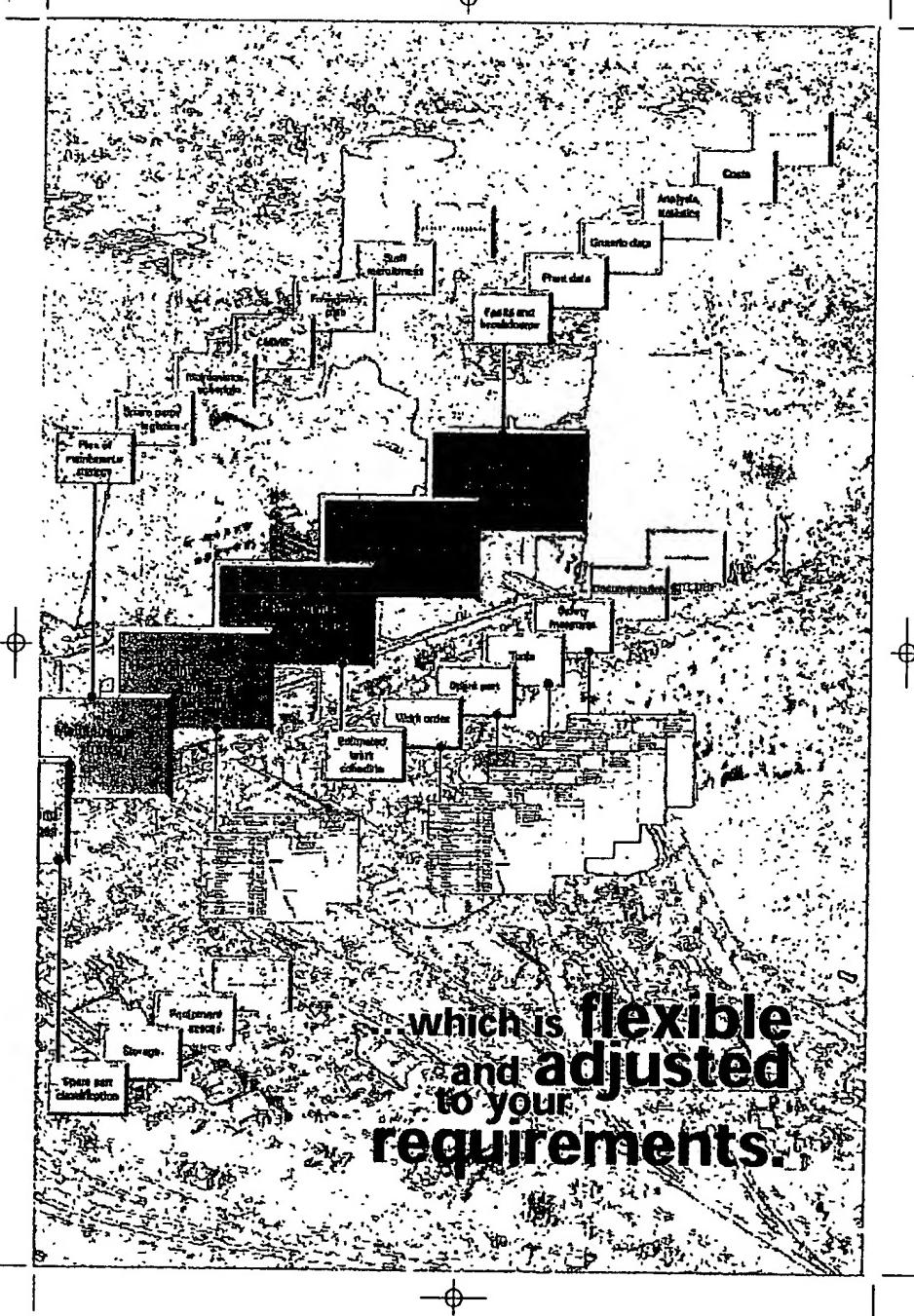
There is a method in our System...

Total or partial outsourcing

Unclarified expressions		Matrix
absence	lack of	negative
and	addition	disjunctive coordination
but	contrast	
either	choice	
neither	negation	
or	disjunction	
so	consequence	
thus	consequence	
Cognitively unclarified expressions		Paraphrase
but	addition	extensibility
either	choice	disjunction
neither	negation	
or	disjunction	
so	consequence	
thus	consequence	
Cognitively clarified expressions		Second place
but	addition	disjunctive coordination
either	choice	
neither	negation	
or	disjunction	
so	consequence	
thus	consequence	

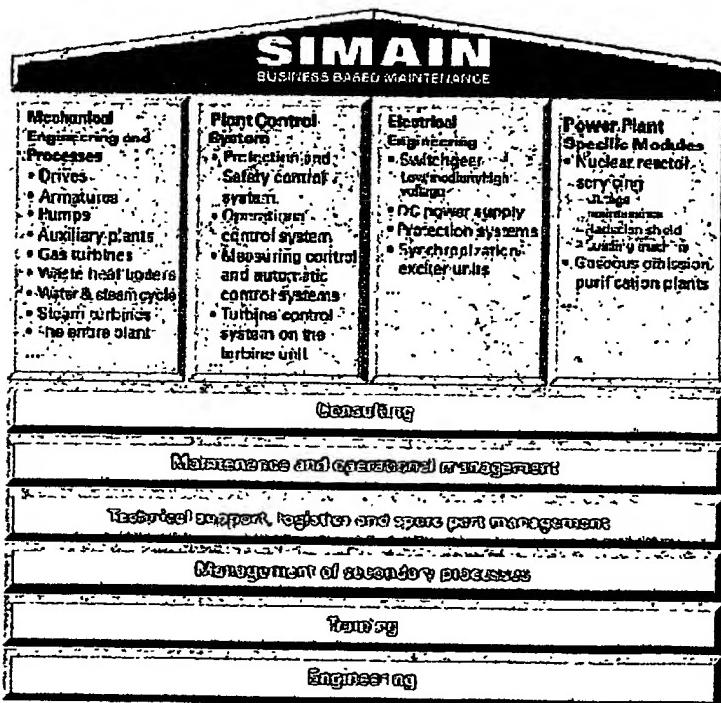


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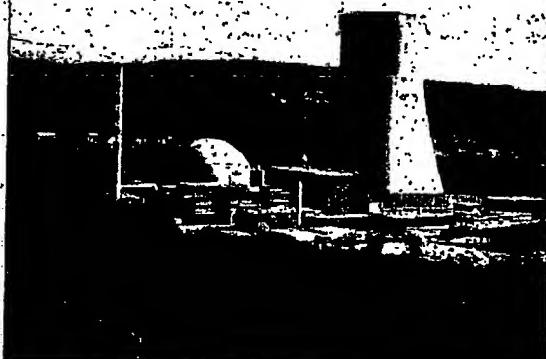
A brief outline of our range of services for power plant maintenance and operational management

- Equipment
- Components
- Systems
- Subsidiary plants
- Entire plant



Professional maintenance: Plants operate longer with SIMAIN

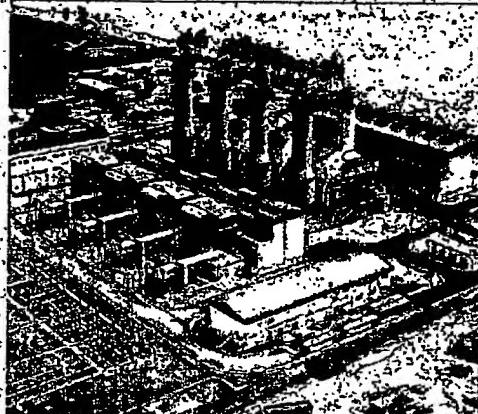
A summary of the technical services for operational management and the maintenance of power plants

Construction phase	Operational phase
<p>During the planning phase all requirements for the subsequent operation of the plant are determined and implemented.</p> <p>At this early stage, the technical solutions required to attain the targets related to the construction of the plant can be best implemented.</p>  <p>The objective of lowest life-cycle costs can also be planned, since all phases of the plant's life and namely the operational phase are integrated with an adapted maintenance program. We can assist you with the planning and the selection of the proper equipment for the operation and maintenance of the plant. We place our extensive experience of assembly, commissioning and acceptance at your disposal, thus ensuring that the quality and efficiency of the plant meets your highest expectations.</p>	<p>The plant should function properly from day one so that your commercial objectives can be met. That is why maintenance services should be prepared before the plant commences operation. This includes establishing the necessary inspection schedules, quality manuals and procedural instructions, introducing a maintenance management system adapted to your operational requirements, the setting up of a uniform documentation structure and the required spare parts strategy.</p> <p>During the operational phase all the SIMAIN service packages of the "Integral Power Plant Maintenance" program will be applied.</p> <p>Consulting</p> <ul style="list-style-type: none"> ■ Targets ■ Analysis of status quo ■ Concept (technical, commercial, maintenance partnership schemes, leasing schemes) ■ Business strategy ■ Definition of job specifications ■ Agreement on implementation ■ Recruitment of personnel ■ Staff transfers ■ Controlling 

Operational phase

Maintenance

- Inspection
 - Determination and assessment of actual condition of the plant by means of the latest measuring techniques, even during the plant's operation
- Servicing
 - Maintaining the operational efficiency of the plant by regular preventive measures in order to preserve the target condition of the plant
- Repair
 - Action taken to restore the target condition, i.e. the specified performance of the plant
- Application of the latest maintenance techniques
 - Condition-oriented maintenance using analytical systems such as thermography, vibration measurement and machine diagnostics
 - Use of innovative operational control and management systems



Troubleshooting

- Analysis
 - Via hotline or teleservicing
- Remedial action
 - Via hotline, teleservicing or on-the-spot action
- Suggestions for optimization
 - The setting up of appropriate preventive measures

Technical back-up

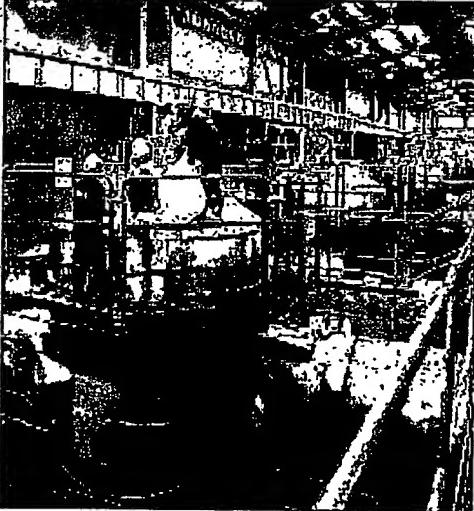
- Workshop services
 - Repair, construction and calibration of components
- Spare parts
 - Advising, ordering, storing and transportation including all documentation
- Tools and instrument service
 - Advice on appropriate tools and measuring equipment and their supply
- 24-hour control centre
 - Answering all reports and queries around the clock and return of calls by qualified engineers within the stipulated time limit
- Teleservicing
 - On-line connection between our system specialists and your process-control system to enable rapid fault diagnosis and direct access to the system

Operational management

- Organization, planning and execution
 - For operator of systems, subsidiary plants and complete plants
 - Installation and operation of workshops, stores, buildings and infrastructure adhering to guaranteed performance targets
- Guarantee of availability
- Development of partnership schemes to suit individual customer requirements
- Consulting business review process

Operational phase

<ul style="list-style-type: none"> » Training and instruction <ul style="list-style-type: none"> ▪ Draft concept ▪ Advice on training measures » Project qualification <ul style="list-style-type: none"> ▪ Comprehensive process control and electrotechnology ▪ Personnel qualification ▪ Maintenance manager, service manager, shift supervisor ▪ Maintenance workshops ▪ Methods, working techniques and work safety » Management of auxiliary processes <ul style="list-style-type: none"> ▪ A new concept of work sharing. Our customers can concentrate on the core processes, and entrust the supporting peripheral statutory processes entirely to Siemens. 	<p>At your request, we can ease your workload by taking over selected partial service packages with technical and commercial responsibility.</p> <p>Modernization (retrofitting) and reconstruction</p> <ul style="list-style-type: none"> » Bags for measures <ul style="list-style-type: none"> ▪ Customer targets, asset condition assessment, studies, solution concepts » Plan of action <ul style="list-style-type: none"> ▪ Evaluating solutions; classification of interfaces, viability ▪ Project implementation from a single source ▪ Planning, controlling, reporting ▪ Coordinating process sequences between status quo and new projects
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Dismantling and recycling

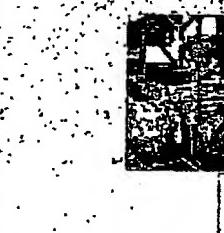
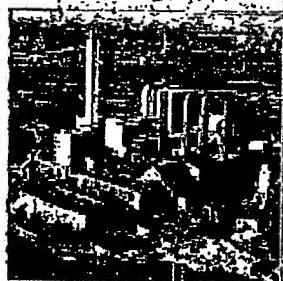
<p>At the end of the commercial service life of a power plant, managing the power plant requires qualified management and specialized know-how in dismantling techniques and environmental protection.</p> <p>Our experience, particularly with nuclear installations, guarantees that these tasks will be economically undertaken in full compliance with all the applicable standards and regulations.</p> <p>We can specifically assist you in:</p> <ul style="list-style-type: none"> » De-commissioning » Conservation » Planning the dismantling and disposal » Dismantling » Local removal of plants or equipment » Disposal in compliance with regulations 	
--	---

A few examples of our maintenance track record

SIMAIN for fossil fuel power generation

- Kova Baja (Indonesia) 400 MW
- Paka (Malaysia) 800 MW
- Pasir (Malaysia) 450 MW
- Santa Rita (Philippines) 1000 MW
- Swartkop (Netherlands) 242 MW
- Tiefstack (Germany) 1000 MW
- Yallourn (Australia) 1450 MW

At the above mentioned power plants we developed the maintenance strategy, took over maintenance management, took responsibility for spare parts, logistics, appointed the maintenance staff and operated the plant with the scheduled availability.



SIMAIN for nuclear power plants

German nuclear power plants are the international leaders for productivity. Their plant and output availability have been the best in the world for decades. We have contributed to this success. We are represented by established service support centers at 19 German nuclear power plant locations:

These include:

- Biblis A/B
- Emsland
- Gundremmingen B/C
- Krümmel
- Neckarwestheim 1/2

Siemens servicing expertise is well-trusted throughout the world. We also ensure plant efficiency at eleven foreign nuclear power plants.



SIMAIN for hydroelectric power plants

Hydroelectric power plants built and operated by Siemens range in output from a few KW to several hundred MW (e.g. Itapu, Brazil, 700 MW). New-generation power generators have been equipped with integrated sensors to collect measurements continuously during operation, so that preventive maintenance action can be taken when necessary. With SIMAIN, hydroelectric power plants are continuously monitored by online-monitoring and / or telemonitoring and operate at maximum efficiency. The abilities of our highly qualified service staff guarantee high standards of reliability throughout the world, for both our own and other power plants. We regularly participate in improvement work at plants which include those listed below:

- Atu Company (Suriname) 5 x 40 MVA
- HEW, Geesthacht (Germany) 3 x 45 MVA
- Schutzseewerke, Werd (Germany) 4 x 300 MVA
- Teng River, Gitaru (Kenya) 2 x 95 MVA
- Tiroler Wasserkraftwerke, Prutz (Austria) 40 MVA

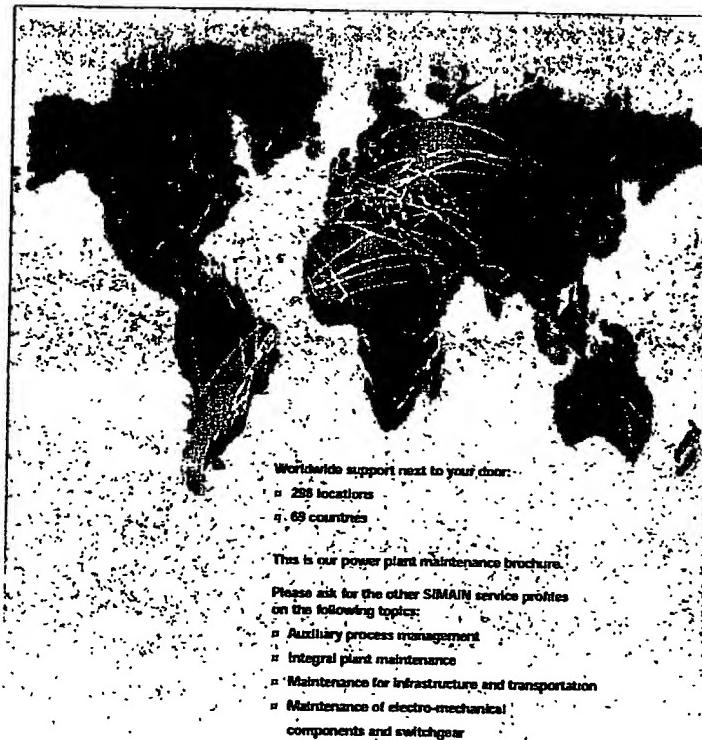


Place your maintenance procedures on the test bench

Maintenance costs



Worldwide support



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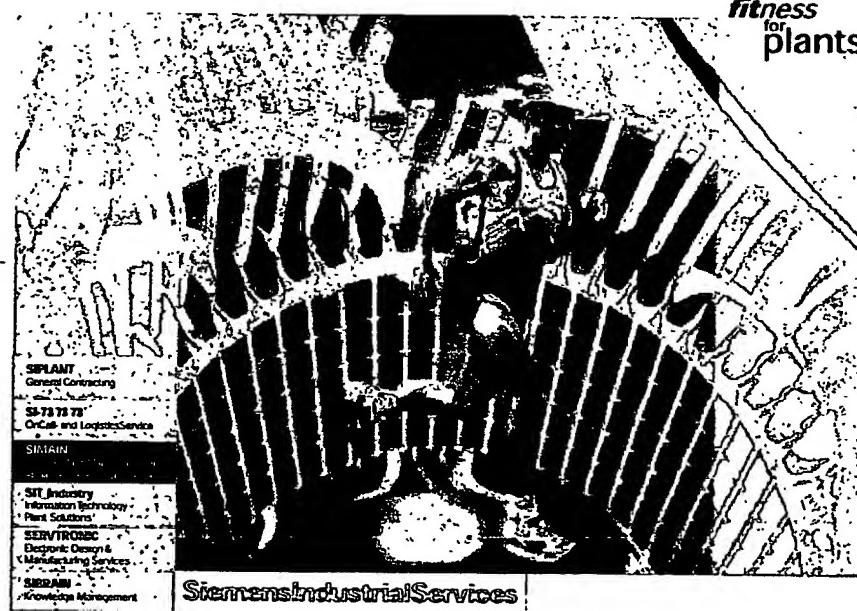
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TD4 060/99 TSP 6S-Engl. 03.02.2000 13-16 Uhr Seite 6

SIEMENS

**Motor Management Program
Tailored for improved efficiency**



*your success
is our goal*

TDM 060/99 TSP 65-Begl. 03.02.2000 13 16 Uhr Seite 1

Switch over to lower costs

Worldwide experience in Business Based Maintenance.

Your business strategy should take in account the ongoing changes resulting from globalization, technical advances and increasing competition. The maintenance is an important part of this strategy.

In developing the Siemens Motor Management Program (MMP), we used many years of experience and the confidence gained by excellent relations with our customers. The program offers a broad range of maintenance services designed to provide comprehensive, vendor-independent solutions.



Recognizing your best choice.
The Motor Management Program provides the following benefits to your organization:

- ▷ Increased equipment reliability and availability
- ▷ Reduced costs through a proactive Business Based Maintenance approach
- ▷ Minimized downtime
- ▷ Optimized asset management
- ▷ Capital solutions
- ▷ Fast response when and where you need it
- ▷ Energy reduction

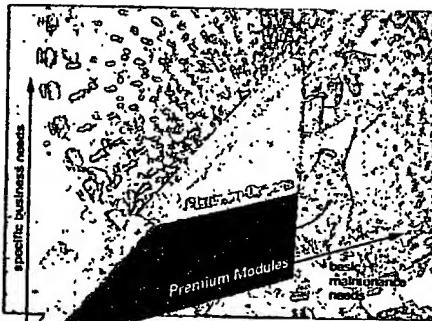


Motor Management Program Premium Modules

Your choice for maintenance excellence.

Our Motor Management Program distinguishes between:

- ▷ Premium Modules which are technology-oriented and cover your basic maintenance needs
- ▷ Platinum Options that take you into Business Based Maintenance solutions, tuned to the special needs of your business



The Premium Modules focus on increased reliability and availability. They can add the bottom-line dollars that drive your business.



Motor Management Program - Premium Modules				
On-Site Motor Services	Support Services	Inventory Management Services	Consulting & Engineering Services	Information Management
Condition Monitoring	Overhaul, Repair & Rewind	Inventory Optimization & Reduction	Application Engineering	System Design and Interface
24hr Emergency Response Service	Motor Upgrade	Storage & Maintenance	Reliability Improvement	Motor Data Management
Preventive & Corrective Maintenance	Replacement Motor Supply	Shared Inventory	Motor Condition Assessment	
		Inventory Reliability Verification	Motor Management Review	
Program Management				

Motor Management Program Platinum Options

Maintenance alignment to your business objectives

By selecting appropriate premium modules, enhanced by platinum options, you ensure

maintenance excellence
Any maintenance problems will be spotted and corrected early.

before they can develop into expensive breakdowns

General Maintenance	
Features:	
► Asset review & improvement recommendations	
► Achieve maintainable cost reduction	
► Incorporate modern technologies	
► Add-ons to existing equipment	
► Provide funds to upgrade motors	
Benefits:	
► Increased reliability	
► Improved production	
► Trouble-free financing	

Energy Protection	
Features:	
► Complete motor system review	
► Optimized recommendations with project savings	
► Business focused	
Benefits:	
► Reduced energy costs	
► Reduced variance in monthly energy costs	



Performance	
Features:	
► Tangible value-added evaluation systems	
► Key Performance Indicators (KPIs)	
► Asset review	
► Early priority validation	
► Scheduled reviews	
► Risk payment - performance payment	
Benefits:	
► Risk minimization	
► Positive customer relationship	
► Effectiveness through measured criteria	

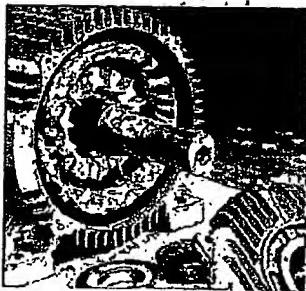
Risk Control	
Features:	
► Asset review	
► Repair or replace motors	
► Preventive maintenance	
Benefits:	
► Predictable costs	
► Equipment replacement including labor over the term of the contract	



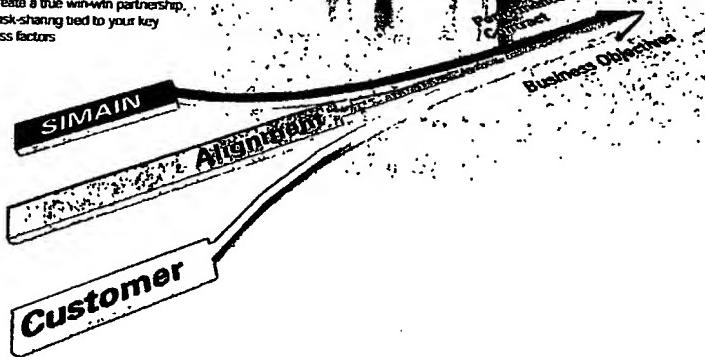
You have the choice: From service provider to business partner

It's more than just a job.

SIMAIN Business Based Maintenance is a process that first defines your equipment and maintenance needs in terms of your business goals. The next step is to develop uniquely tailored maintenance strategies that will help you to reach your objectives. These proactive strategies, complemented by modern monitoring technologies, will improve your equipment reliability and positively impact the bottom line. Most importantly, the success of these changes will be achieved by working closely together with your employees to sustain improvements.



Our commitment is to develop solutions that address your business objectives and create a true win-win partnership, with risk-sharing tied to your key success factors.



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Discover the better alternative for electro-mechanical maintenance



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E-Mail: simain@erf9.siemens.de

Siemens Aktiengesellschaft

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SIEMENS

SIMAIN Instandhaltung von Infrastruktur- und Verkehrsanlagen

**fitness
for
plants**

SIMAIN
Anlagenbau und
Technische Dienstleistungen

Si-PLANT
Anlagenentwicklung

Si-73 73.73 - Technischer
Industrie-Kundendienst

SIMAIN
Anlagenbau und
Technische Dienstleistungen

SiT Industry
Lösungen für die Industrie

SERVTRONIC
Kundenspezifische Elektronik

SIBRAIN
Knowledge Management

Siemens Industrial Services

Anlagenbau und
Technische Dienstleistungen

*Zur Erfolg Ziel
ist unser*

Ihr Wettbewerbsvorsprung durch Instandhaltungs-Outsourcing



Wenn ein Flugzeug in Buenos Aires, in London, Kopenhagen oder Lissabon landet, wenn der Straßenverkehr durch die Innenstädte von Rom oder Athen geleitet wird, wenn der Skytrain durch Bangkok oder der LRT durch Kuala Lumpur fährt - dann tragen wir stets mit dazu bei. Als größter Technischer Dienstleister für Industrie, Energie und Infrastruktur erbringt Siemens professionelle Instandhaltungsdienstleistungen in aller Welt. Und zwar nicht nur für Systeme und Anlagen von Siemens, sondern herstellerübergreifend für sämtliche Maschinen und Ausstattungen von Infrastruktur- und Verkehrsanlagen. Mit SIMAIN Business Based Maintenance, dem neuartigen Instandhaltungskonzept, können wir auch für Sie die Effizienz Ihrer Instandhaltung optimieren.

Gehört Instandhaltung zu Ihrem Kerngeschäft?

Ein sehr komplexes Thema für Betrieb und Instandhaltung von

- Flughäfen und Fluggesellschaften
- Schiffen und Hafenanlagen
- Einrichtungen und Anlagen für den Straßen- und Schienenverkehr

ist und bleibt die Anlageninstandhaltung

Sie ist für den Geschäftserfolg unverzichtbar. Aber sie erfordert aufwendige Arbeits- und Managementprozesse und verursacht erhebliche Kosten. Vergleichen Sie einmal Ihre Situation. Je nach Betrieb macht die Instandhaltung heute 5 - 40 % der laufenden Kosten aus!

Je stärker dieser Aufwand bei Ihnen zu Buche schlägt, desto interessanter ist eine nachhaltige Rationalisierung Ihrer Instandhaltung. Effizienz lässt sich heute auch ohne Qualitätseinbußen steigern. Allerdings: Nur wenn man Instandhaltung wie ein profitables Kerngeschäft betreibt, lassen sich diese Potenziale in vollem Umfang für Sie realisieren.

SIMAIN Business Based Maintenance – unsere Lösung mit System

Siemens bietet professionelle Instandhaltungsdienstleistungen in aller Welt. Und zwar nicht nur für Systeme und Anlagen von Siemens, sondern herstellerübergreifend für sämtliche

Produkte und Systeme in Ihrem Unternehmen. Damit gehört Siemens zu den ganz wenigen Anbietern von Instandhaltungsdienstleistungen, die überall zu Hause sind – technisch und geografisch.

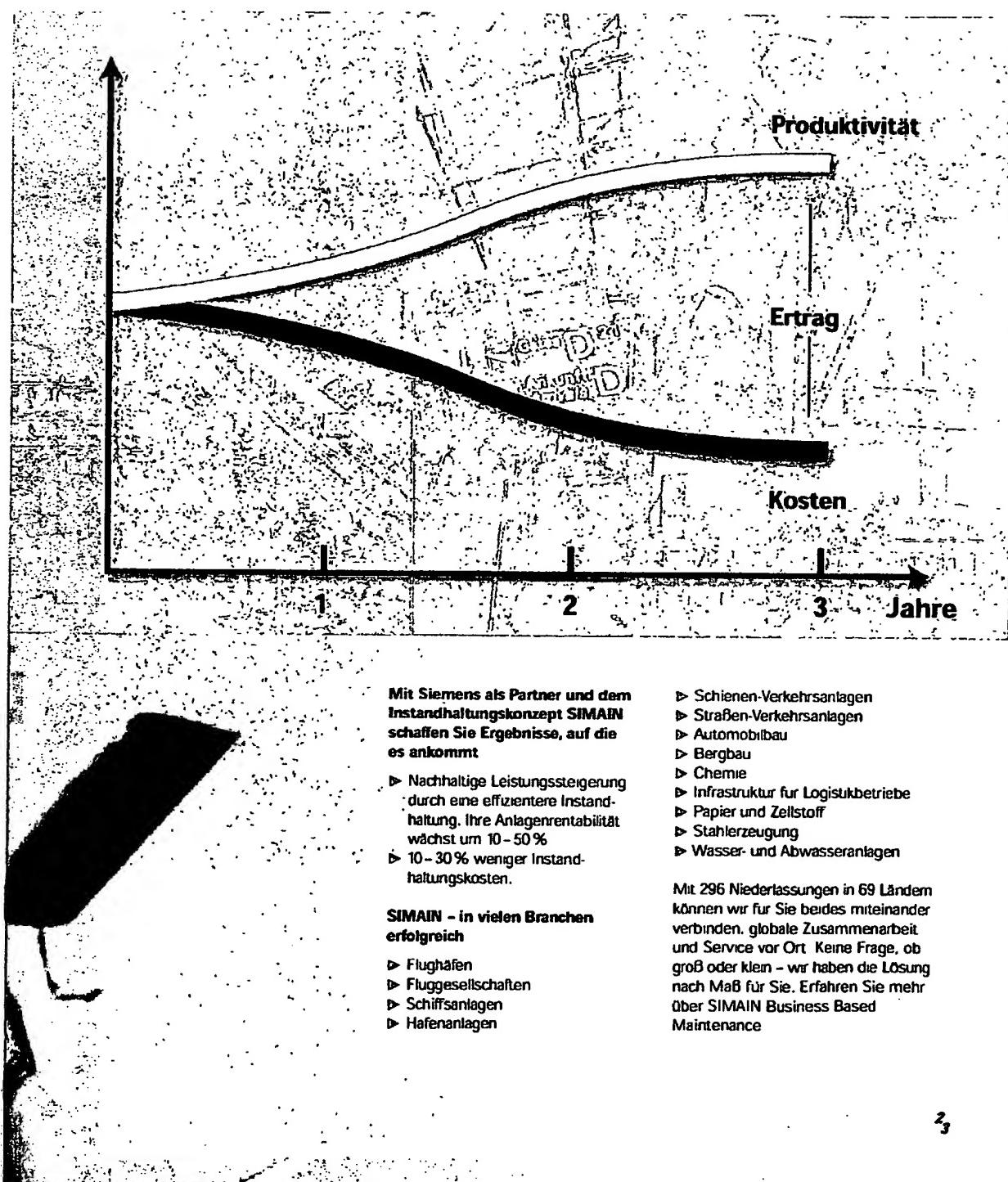
Das SIMAIN Leistungsspektrum umfasst:

- strukturierte Vorgehensweise,
- individuell auf Kundenwünsche zugeschnittene Lösungen,
- einmalige Prozesse und Prozeduren,
- definierte und gemeinsam vereinbarte Instandhaltungsstrategien

**Weniger Komplexität,
größerer Focus auf Ihre
Kernkompetenzen,
gesteigerte Leistung und
Kosteneinsparungen – SIMAIN
Business Based Maintenance**



Die Resultate rechnen sich für Sie



Sie sind erfolgreicher mit SIMAIN Business Based Maintenance



Ihr Instandhaltungs-Partner für alle Gewerke

Koordinieren Sie nicht umständlich mehrere Spezialdienstleister. Siemens ist der Instandhaltungspartner für sämtliche Anlagentechniken – gewerkeübergreifend für

- Elektrotechnik,
- Mechanik und
- bauliche Gewerke

Die Vorteile für Sie liegen auf der Hand. Durch das herstellerübergreifende Know-how können wir auch als Generalunternehmer alle Arbeiten erbringen, die Verkehrseinrichtungen, Hafenanlagen, Schiffe und Airports auf dem Laufenden halten. Den Umfang der technischen Verantwortung, die Siemens für Sie übernimmt, bestimmen Sie – ganz individuell. Das erprobte Konzept dahinter ist jedoch stets identisch: es ist SIMAIN – die geschäftszielorientierte Instandhaltung.

SIMAIN Business Based Maintenance

SIMAIN ist ein Konzept, das sämtliche Instandhaltungstätigkeiten individuell an Ihren vorgegebenen Unternehmenszielen ausrichtet. Damit erzielen Sie als unser Auftraggeber z.B.

- Mehr Produktivität
- Höhere Anlagenverfügbarkeit
- Größeren Unternehmensertrag

Ihre unternehmerischen Ziele machen wir uns zu Eigen, um daraus unmittelbar alle für Sie erforderlichen Technischen Leistungen abzuleiten – und das alles mit niedrigen Kosten.



„ das SIMAIN Konzept:
Ein Fitness Programm für Ihre
technischen Anlagen

Mit diesen sechs Schritten zur
Umsetzung des „Fitness Plans“
für Ihren Unternehmen und Ihre
Anlagen sind Sie stets fit für
den globalen Wettbewerb.

Schlüssel zum Erfolg

Die Zusammenarbeit ist absolut erfolgsorientiert. Im Rahmen einer Win-Win-Partnerschaft vereinbart Siemens mit Ihnen leistungsbezogene Vergütungssysteme. Über Erfolgskennzahlen, den sogen. „Key Performance Indicators“ (KPIs), lassen sich die erreichten Verbesserungen messen und vereinbarungsgemäß honорieren – Ihr Erfolg ist darum unser Antrieb. Die Art und Gewichtung dieser Leistungskennzahlen hängt stets ab von den Inhalten des Vertrages und Ihren damit verbundenen Geschäftszielen. Im Falle eines vollständigen Outsourcings der Anlageninstandhaltung sind beispielsweise folgende Leistungskennzahlen üblich:

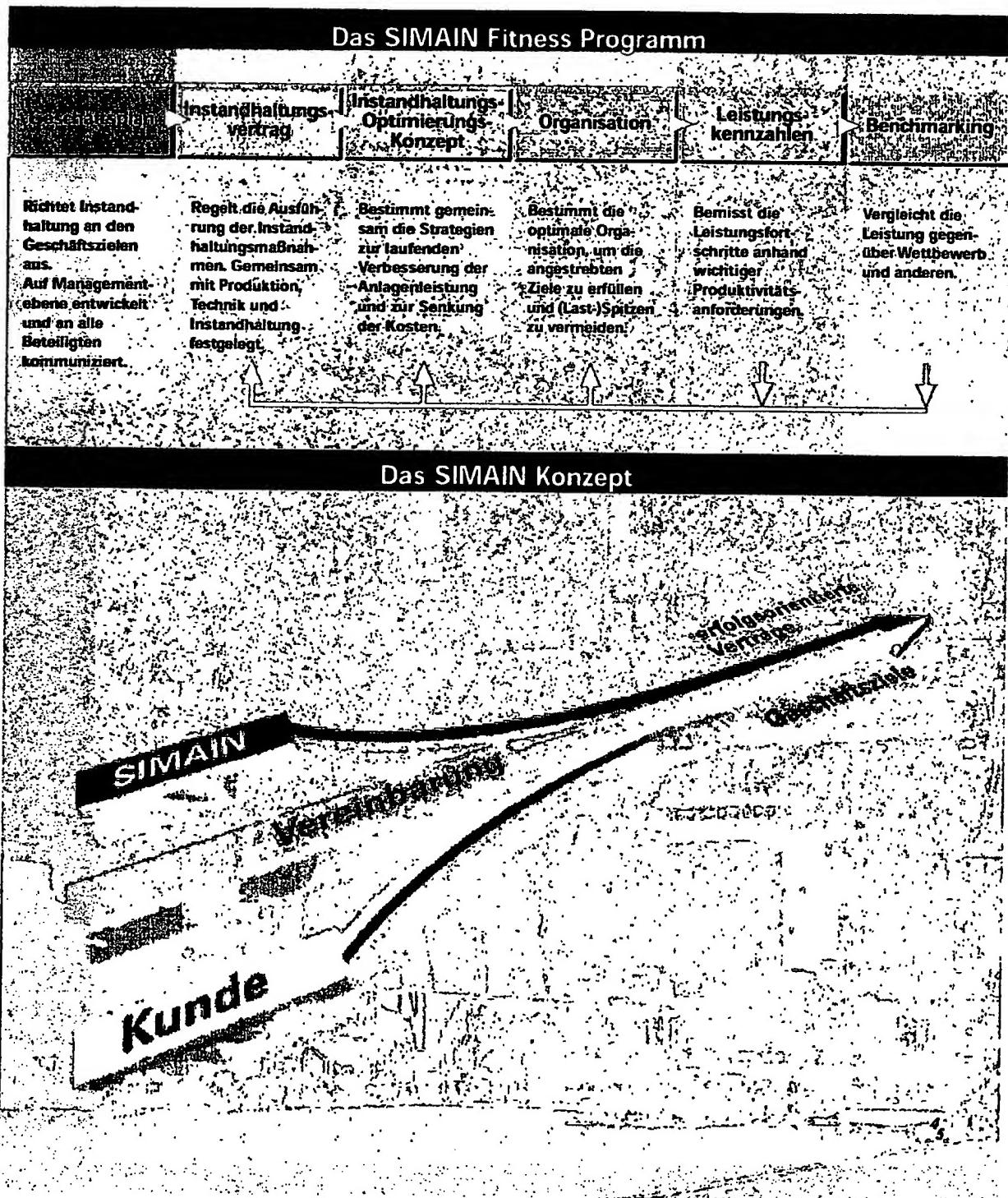
- Sicherheit,
- Verfügbarkeit,
- Reduzierung der Betriebskosten
- ..

Die Gewichtung dieser Erfolgskennzahlen ist abhängig von Ihren individuellen Geschäftszielen und Wünschen.

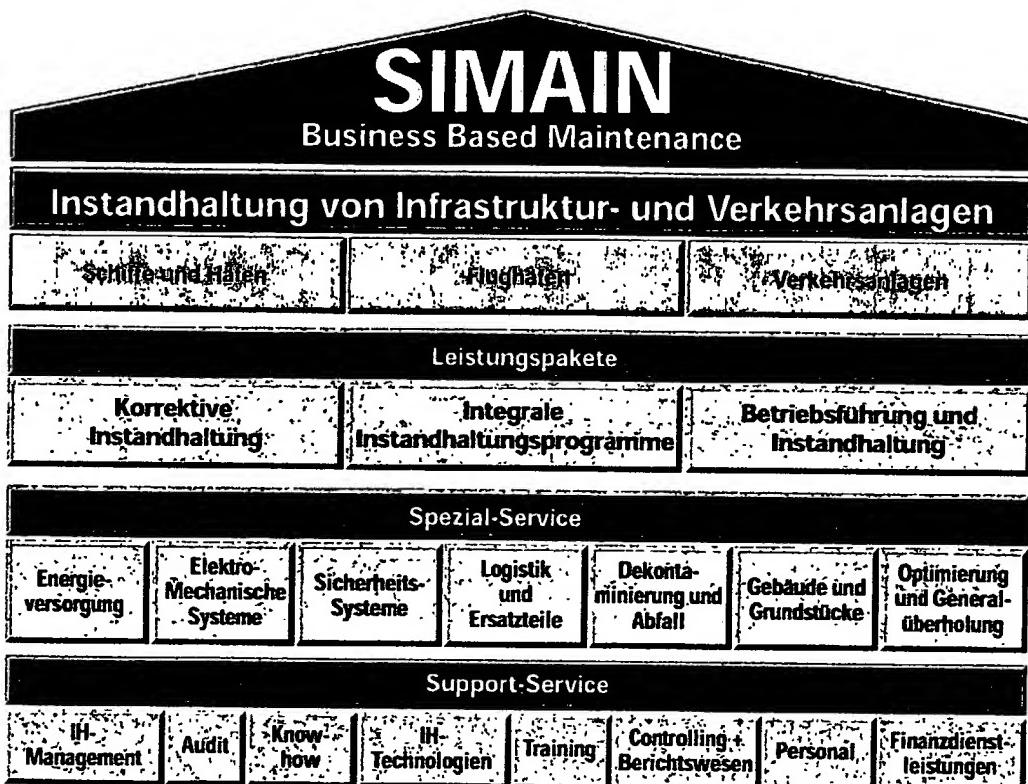
Planbare Leistungen, Überschaubare Kosten

Die Basis von SIMAIN bildet eine transparente Kostenkalkulation. Für regelmäßige Arbeiten ist auch ein Contracting zu Festpreisen möglich. Sie können Ihre Instandhaltungskosten endlich realistisch planen und verfügen stets über eine zeitnahe Kostenkontrolle.

SIMAIN – Fitness für Ihre Anlagen



Das modulare Leistungsangebot nach Maß



Das SIMAIN Konzept bietet Ihnen die Möglichkeit, genau die Leistungen auszuwählen, die Ihren Anforderungen entsprechen - vom ganzheitlichen Outsourcing bis hin zu individuellen Spezial-Services und Support-Leistungen

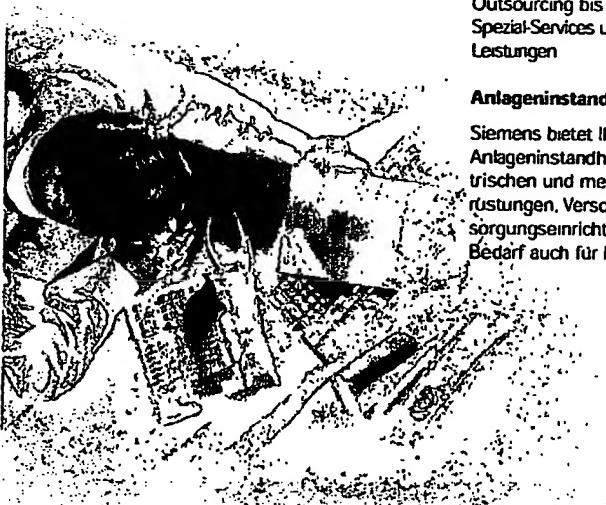
Anlageninstandhaltung von A bis Z

Siemens bietet Ihnen die komplette Anlageninstandhaltung für Ihre elektrischen und mechanischen Ausstattungen, Versorgungs- und Entsorgungseinrichtungen sowie bei Bedarf auch für Ihre Gebäudetechnik.

Die Anlageninstandhaltung umfasst:

- Einführung und Optimierung von computergestützten Instandhaltungs-Management-Systemen
- Ersatzteilmanagement
- Geplante Überholungen
- Geplante zustandsorientierte Instandhaltung
- Korrektive Instandhaltung
- Personaleinsatz
- Präventive Instandhaltung
- Strategie-Entwicklung und -Optimierung

Mit leistungsbezogenen Verträgen richten wir alle Instandhaltungsdienstleistungen auf Ihren jeweiligen Bedarf aus



Wir stellen Ihnen Ihr individuelles Leistungspaket zusammen

Alle Instandhaltungsleistungen unseres Hauses lassen sich ganz nach Ihrem Bedarf zu einem maßgeschneiderten Paket zusammenstellen. Dazu bieten wir Ihnen auf Basis unserer **Spezial-Services** die Wunsch-kombination von:

- ▷ Korrektiver Instandhaltung
- ▷ Integralen Instandhaltungsprogrammen
- ▷ Betriebsführung und Instandhaltung

Zusätzlich können Sie für die Bereiche der elektromechanischen Instand-haltung unsere zwei Sonderprogramme nutzen:

- ▷ Technisches Support Programm (TSP)
- ▷ Motor Management Programm (MMP)

Diese beiden Programme stellen wir Ihnen gern ausführlich vor. Bitte fordern Sie einfach unsere separaten Broschüren dazu an.

Spezial-Services

Zu jedem von unseren Leistungs-paketen können Sie die nachfolgend aufgelisteten Spezial-Services nutzen. Diese Instandhaltungsleistungen orientieren sich nach typischen Anlagentechniken und -komponenten, die Sie einzeln oder integriert betreuen lassen können. Auswahl und Umfang richten sich ganz nach Ihrem Bedarf

▷ Energieversorgung

Alle Anlagen und Anlagenkompo-nenten, die mit Hochspannung, Mittelspannung, Niederspannung, Blockheizkraftwerk, Notstromdiesel etc. zu tun haben.

▷ Elektromechanische Systeme

Die gesamten Elektromechanischen Systeme, die Ihre Anlagen innen oder außen zum Laufen bringen (z.B. Klima und Lüftung, Beförderungssysteme, etc.)

▷ Sicherheits-Systeme

Präventive Instandhaltung für die sichere Funktionalität aller Systeme wie Zutrittskontrolle, Videouber-wachung, Brandmeldeanlage, Gepäckdurchleuchtung etc.

▷ Logistik und Ersatzteile

Wir sorgen dafür, dass Ihr Kapital optimal eingesetzt wird

▷ Dekontaminierung und Abfallentsorgung

Professionelle Reinigung von elektronischen Leiterplatten und elektronischen Ausrüstungen sowie die Instandhaltung von Entsorgungs-anlagen wie z.B. von Abwasser-anlagen

▷ Gebäude und Grundstücke

Wir bieten die komplette Dienst-leistungspalette an, vom Reini-gungsservice innen und außen bis hin zur Ausbesserung von Schäden an Gebäuden und Straßen

▷ Optimierung und Generalüberholung

Um die Produktivität und Verfü-gbarkeit Ihrer Anlagen zu steigern, helfen wir sowohl mit Optimierung und Modernisierung Ihrer Anlage als auch mit einer Generalüber-holung

Support-Service

In dem Instandhaltungskonzept SIMAIN bilden die Support-Leistungen ein wichtiges Funda-ment. Sie orientieren sich an technikunabhängigen Leistungen im Rahmen der modernen Instand-haltung. Der Nutzen zahlt sich indi-viduell für Sie aus.

Instandhaltungs-Management

- ▷ Strategie-Entwicklung und -Optimierung
- ▷ Instandhaltungsplanungs-Systeme

Audit – Überprüfen der bisherigen Instandhaltung

▷ Durch unser Prozess-Knowhow können wir Sie dabei unterstützen, die eigene Organisation objektiv zu bewerten und Optimerungspläne zu entwerfen

Know-how

▷ Um weltweites Best-Practice-Wissen und Erfahrung zu garantieren, haben wir ein Intranet-Informationsnetzwerk aufgebaut.

Instandhaltungs-Technologie

- ▷ Zustandserfassung
- ▷ Online-Sensorik
- ▷ Entscheidungs-Analyse-Tools

Training

- ▷ Instandhaltungs-Management
- ▷ Technologien zur vorrausschauenden Instandhaltung
- ▷ Instandhaltungs-Systeme

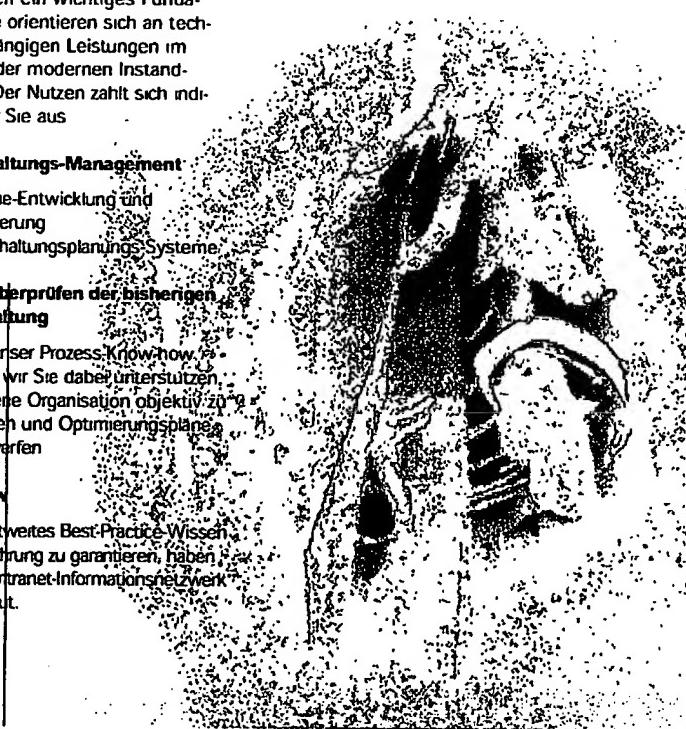
Finanz-Controlling & Berichterstattung

- ▷ Aussagestarke Analysen über bisherige Vertragsverläufe und weiterführende Prognose

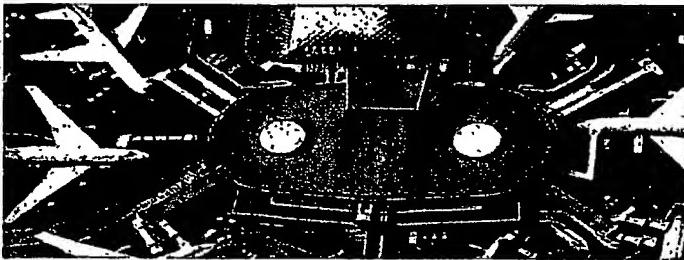
Personal

- ▷ Rekrutierung und Management der Mitarbeiter, die für die Instand-haltung zuständig sind

Durch den Zugriff auf unsere Support-Leistungen können Sie unmittelbar von der weltweiten Erfahrung profitieren, die SIMAIN aus zahlreichen Bereichen der Industrie mitbringt.



SIMAIN Instandhaltung von Flughafenanlagen



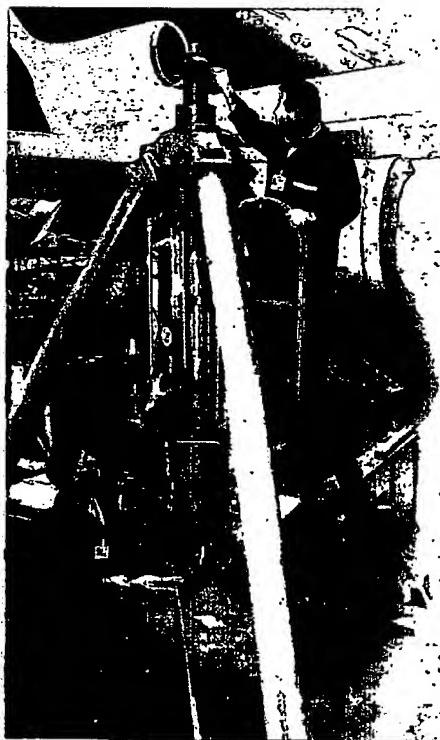
Integrale Instandhaltungsleistungen für sämtliche Flughafen-Anlagen und -Systeme

Ob es um Bodenkontrolle, Gepäck- und Frachtlogistik, Passagier-Informationssysteme oder um Sicherheits- und Gebäudetechnik, Transporteinrichtungen, technische Dienstleistungen, Betrieb und Wartung oder um weitere Bereich geht – SiemensIndustrialServices ist Ihr leistungsfähiger und zuverlässiger Partner für alle Abläufe zwischen Landung und Start. Und als eines der ganz wenigen Unternehmen weltweit verfügen wir über Referenzen in allen Aufgabenbereichen

Wir bieten Ihnen beides, große Erfahrung und Fachwissen im Umgang mit allen gängigen Systemen, Prozessen und Technologien. Unsere Leistungen reichen von der Instandhaltung bis hin zur vollen Betriebsverantwortung sämtlicher Airport-Bereiche. Die SIMAIN Leistungen können wir speziell für Sie so definieren, dass die geschäftlichen und betrieblichen Anforderungen Ihres Flughafens über die gesamte Nutzungsdauer gewährleistet sind. Dabei stellen wir selbstverständlich sicher, dass alle internationalen Vorgaben und Standards für Sicherheit, Gesundheit und Umweltschutz eingehalten werden.

Luftseitige Anlagenkomponenten:

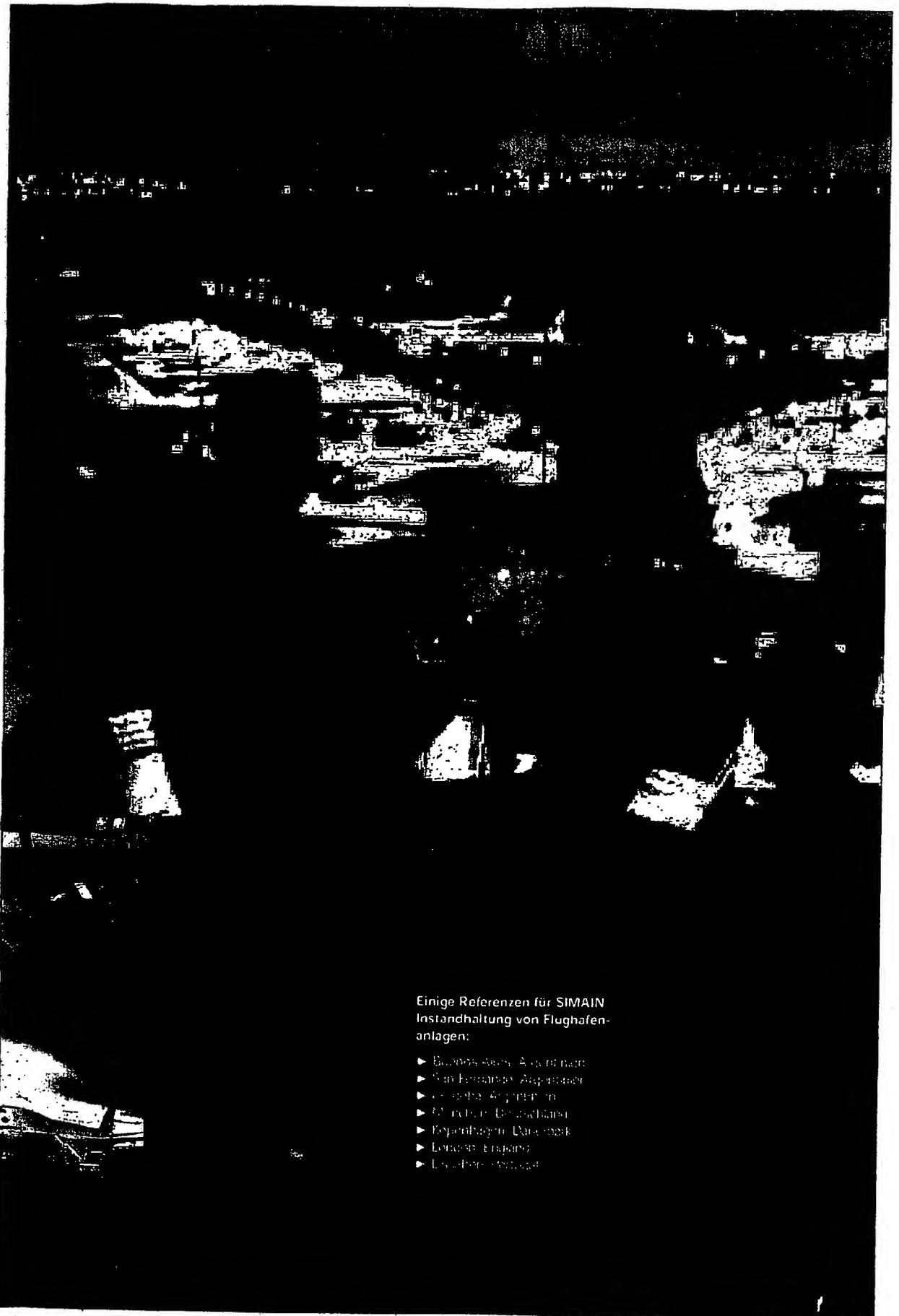
- ▷ Vorfeldausrüstung
 - 400 Hz
 - Befeuern
 - Bodenstromversorgung
 - Andockeinrichtung
- ▷ Bodenradar
 - Primär
 - Sekundär
 - Statistisch
- ▷ Navigationshilfen
- ▷ Flugplatzbefeuern
 - Steueranlagen für Flugplatzbefeuern
- ▷ Bodenbewegungs-Leitsystem mit Vorplanung



Landseitige Anlagenkomponenten:

- ▷ Elektrische Sicherheitsanlage
 - ACS-Kontrolle
 - CCTV (kabelgebundenes Fernsehen)
 - Feuermeldeanlage
 - Überprüfen von Fluggästen und Gepäck
 - Einbruchschutz
- ▷ I & C
 - PABX
 - Hörfunk und Fernsehen
 - Lautsprecheranlage
 - Anzeigesysteme für Fluginformationen
 - Datennetz
- ▷ Gebäude-Automatisierungssystem
 - Gepäcktransport
 - Einchecken
 - Gebäudeleitsystem
- ▷ Stromversorgung
 - Hochspannung
 - Niederspannung
 - Beleuchtung (Befeuerung)
 - Generator
 - Notstromversorgung
 - Dieselaggregat
 - USV
 - Energieverteilung
- ▷ Mechanische Anlagen
 - Heizung/Luftung/Klimatechnik
 - Aufzüge
 - Förderbänder
 - Feuerlöschanlagen
- ▷ Bautechnik
 - Gebäude
 - Landschaftsgestaltung (evtl. auch: Innenplanung)
 - Möbel
 - Hilfseinrichtungen
 - Straßenbau

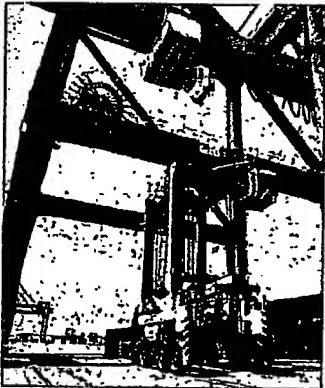




**Einige Referenzen für SIMAIN
Instandhaltung von Flughafen-
anlagen:**

- Eurowings Airbus A320 Flotte
- Swiss International Air Lines
- Lufthansa Airline
- Condor Deutsche
- Copenhagen Danmarks
- Lufthansa Engineering
- Lufthansa Technik

SIMAIN Instandhaltung von Schiffs- und Hafenanlagen



SIMAIN bringt die Schiffs-Instandhaltung in Fahrt

Siemens ist für Reedereien ein idealer Partner. Als global agierender Dienstleister sind wir in der Lage, mit Ihnen sowohl zentral als auch regional zusammenzuarbeiten. Die gesamte Flotte kann überall vor Ort aus einer Hand zu weltweit fest vereinbarten Konditionen betreut werden – was zu entsprechenden Kostenvorteilen führt. Alternativ kann auch projektweise oder je einzelnen Schiff oder pro Region eine Zusammenarbeit erfolgen. In jedem Fall garantiert SIMAIN die Durchführung aller Arbeiten nach international zertifizierten Qualitätsstandards.

Geprüfte Sicherheit an Bord

Maschinen, Geräte und betriebliche Anlagen unterliegen laufender Abnutzung. Sie müssen daher fachmännisch auf Funktionstüchtigkeit und Betriebssicherheit geprüft werden. Zur Vermeidung von längeren unplanmäßigen Stillstandszeiten bietet SIMAIN den regelmäßigen Check der Schiffstechnik an.

Beispiele für betreute Schiffsanlagen

- ▷ Generatoren
- ▷ Schaltanlagen/Leistungsschalter
- ▷ Powermanagement
- ▷ Überwachungsanlagen
- ▷ komplexe Automationsanlagen
- ▷ Dieselelektrische Fahranlagen
- ▷ Fernsteuerungen für Schiffs-Vortriebsanlagen
- ▷ Elektronik-Baugruppen
- ▷ Elektromaschinen aller Art
- ▷ Steuerungseinrichtungen
- ▷ Navigationssysteme

SIMAIN Hafenanlagen-Instandhaltung für kürzere Liegezeiten

Häfen stehen heute in offenem Leistungswettbewerb. Um sich durchzusetzen, benötigt man modernste computergesteuerte Anlagen, die ein vollständiges Ent- und Beladen der einklauenden Schiffe innerhalb von Stunden gewährleisten. Eine funktionierende Infrastruktur, ein effizientes Kosten-management und die unbürokratische Abwicklung aller Prozesse sind weitere Voraussetzungen. SiemensIndustrialServices ist der Technische Dienstleister, mit dem Sie diese Aufgaben besser lösen können.

Wir bieten Ihnen eine

- ▷ kosteneffiziente Instandhaltung aller Hafenanlagen bzw. wichtiger Anlagenteile,
- ▷ verantwortliches Betreiben von Nebenprozessen (Energieversorgung, Management der Industrial Facilities, u.ä.) innerhalb des Hafenbetriebes zum Festpreis,
- ▷ flexible Entlastung bei personellen Bedarfsspitzen,
- ▷ komplette Übernahme der Instandhaltungsverantwortung für Anlagen zum Festpreis (d.h. SIMAIN gewährleistet Ihnen die Anlagen-Freigabe).

Beispiele für betreute Hafenanlagen

- ▷ Autokräne
- ▷ Hafenmobilkräne
- ▷ Eisenbahnkräne
- ▷ Schiffskräne
- ▷ Portalkräne (Containerkräfte)
- ▷ Halbportalkräne
- ▷ Brückenkäne
- ▷ Drehkräne
- ▷ Drehwippträne
- ▷ Wandlaufkräne
- ▷ Lagereinrichtungen
- ▷ Generatoren
- ▷ Informationssysteme
- ▷ Kommunikationssysteme
- ▷ Transportsysteme
- ▷ Störmeldesysteme
- ▷ Intrusionsschutzanlagen
- ▷ Brandschutzanlagen

Eine Zusammenarbeit mit ortsnahen Spezialisten sowie mit Ihrem vorhandenen Instandhaltungspersonal ist natürlich möglich.

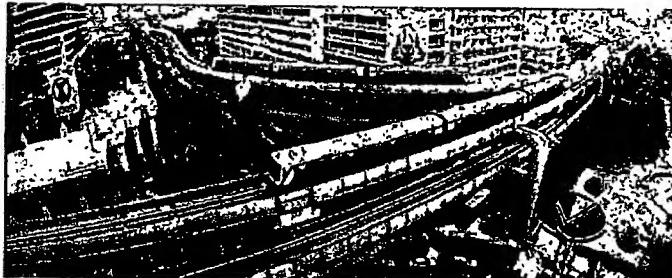




SIMAIN Instandhaltung von
Schiffs- und Hafenanlagen:

- Kopenhagen, Danemark
- Kanadische Marne, Kanada

SIMAIN Instandhaltung von Straßen- und Schienenverkehrsanlagen



Mit SIMAIN ist alles sicher geregelt

Sie suchen einen zuverlässigen Dienstleistungspartner für Ihre Infrastruktur-Verkehrs-Projekte? Einen, der hocheffiziente Instandhaltung als Kernkompetenz hat? Einen, der Stark- und Schwachstromanlagen, Automatisierungs- und Kommunikationstechnik zusammen mit allen dazugehörigen mechanischen und baulichen Gewerken abdecken kann? Als technischer Dienstleister für Infrastruktur-Verkehrsanlagen haben wir langjährige

Erfahrung in der Instandhaltung von Straßen- und Schienenverkehrs-lösungen weltweit. Dieses internationale Best-Practice-Know-how zahlt sich auch für Sie aus. Ihr Vorteil. Für alle Gewerke und Techniken erhalten Sie herstellerübergreifend die gesamten Instandhaltungsdienstleistungen aus einer Hand. Sie werden zentral von einem Ansprechpartner betreut und brauchen sich um keine technischen Details mehr zu kümmern – wir sorgen vereinbarungsgemäß dafür, dass alles läuft. Ganz nach Ihren Anforderungen bieten wir Ihnen das Leistungspaket nach Maß

Global und lokal stark für Sie

Als Gesamtanbieter arbeiten wir auch lokal mit ideal qualifizierten Partnern zusammen. Unsere jeweiligen Partner vor Ort kennen die regionalen Gegebenheiten und bringen dieses Wissen für Sie ein – bei der Zusammenarbeit mit weiteren Partnern, im Umgang mit zuständigen Behörden, und bei der Nutzung von guten Verbindungen. Sie schöpfen die Ressourcen optimal aus, sparen Kosten und beschleunigen Abläufe

Wir informieren Sie gern.

Mit unserem weltweiten Siemens Niederlassungsnetz haben Sie immer einen kompetenten Ansprechpartner in der Nähe

Schienenverkehr:

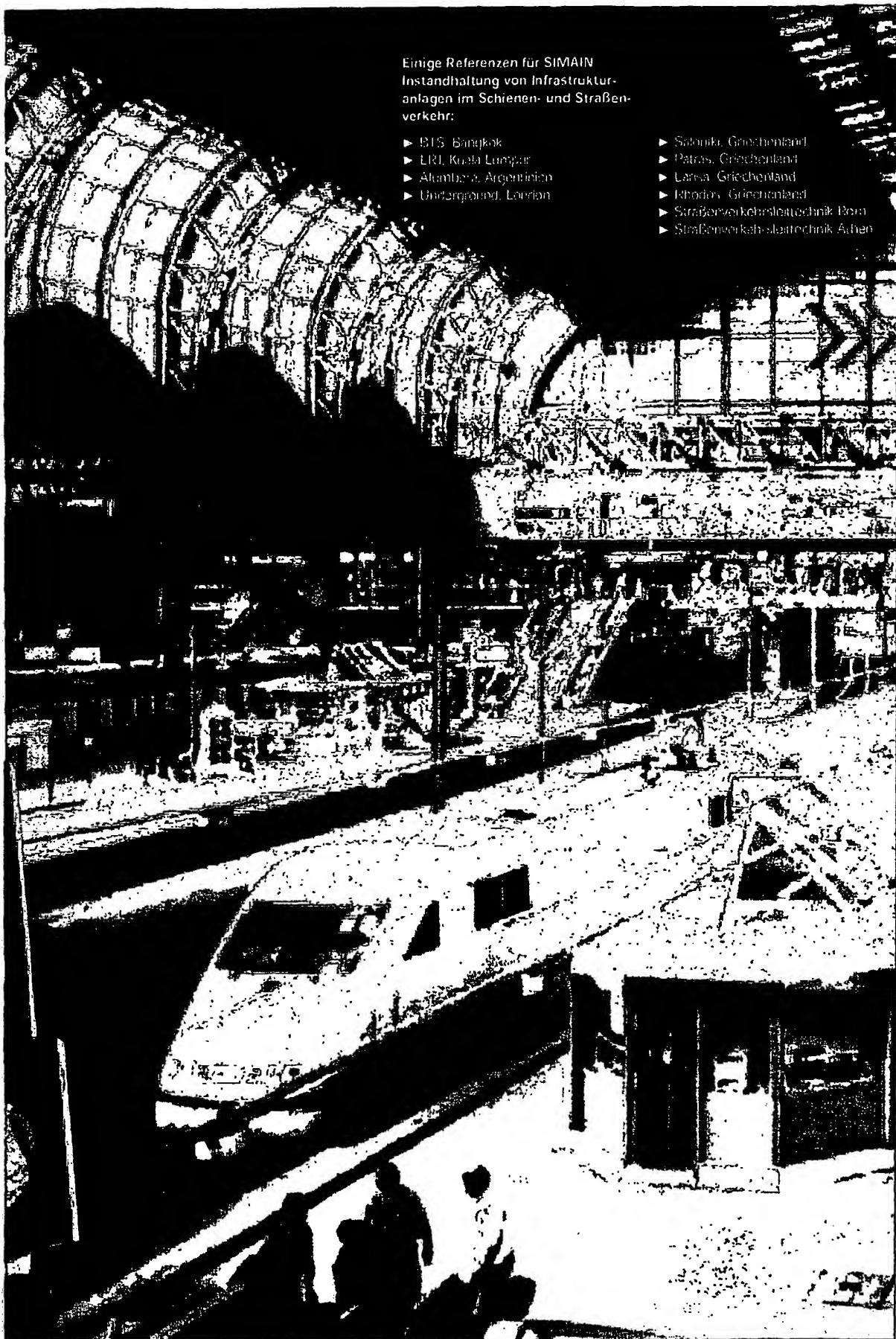
Wir bieten Ihnen die komplette Palette an Instandhaltungsleistungen für alle typischen Anlagen und Facilities

- ▷ Stromversorgung
- ▷ Telekommunikation
- ▷ Signalechnik
- ▷ SCADA
- ▷ Ticketing
- ▷ Bahnhofsausrüstung
- ▷ Fahrzeugmotoren
- ▷ Depot und Werkstatt
- ▷

Straßenverkehr:

- ▷ Fahrzeugampeln
- ▷ Fußgängerampeln
- ▷ Hochmastampeln
- ▷ Blinkampeln
- ▷ Kreuzungsgeräte
- ▷ Detektoren
- ▷ Steuersysteme
- ▷ Rechner / Leitstände
- ▷

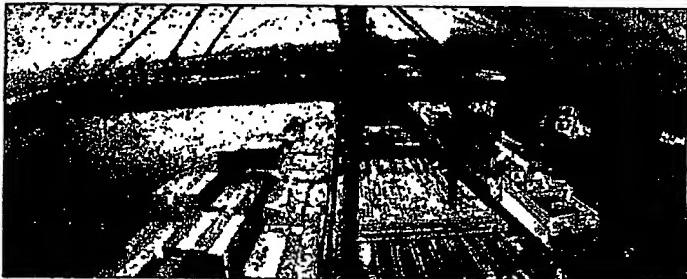




Einige Referenzen für SIMAIN
Instandhaltung von Infrastruktur-
anlagen im Schienen- und Straßen-
verkehr:

- BTS, Bangkok
- LRT, Kuala Lumpur
- Alakbarra, Argentinien
- Underground, London
- Salomika, Griechenland
- Patras, Griechenland
- Larisa, Griechenland
- Rhodos, Griechenland
- Straßenverkehrsleittechnik Bonn
- Straßenverkehrsleittechnik Aachen

Mit System zu besseren Ergebnissen



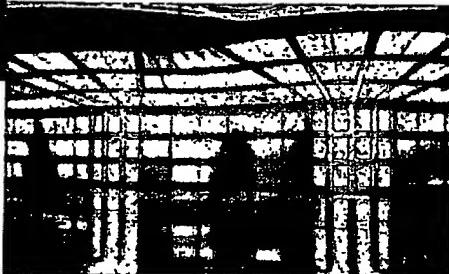
Innovative Tools für die effiziente Instandhaltung

Um die angestrebten Ergebnisse liefern zu können, läuft der SIMAIN Prozess auf Basis eines computergestützten Instandhaltungs-Management-Systems. Geschäftsplan, Instandhaltungspolitik und Optimierungsstrategie dienen als Input, der anschließend auf die vorhandenen Anlagen übertragen wird. Als Ergebnis entsteht damit der Instandhaltungsplan. Er ist die Grundlage des computergestützten Instandhaltungs-Management-Systems. Er definiert die Instandhaltungs-Aktivitäten, die Verfahren und die Häufigkeit, mit der sie ausgeführt werden, und dies für jede betreute Komponente Ihrer Anlage.

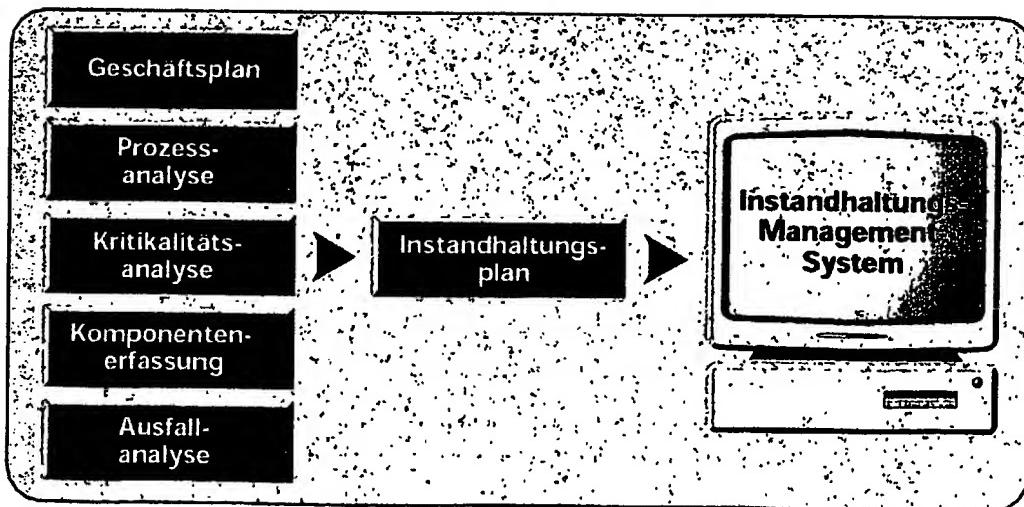
SIMAIN macht Produktivitätssteigerungen planbar

Mit SIMAIN Business Based Maintenance nutzen Sie weltweit erprobte Best-Practice-Verfahren und -Techniken für die Instandhaltung Ihrer Anlagen:

- ▶ Präventive Instandhaltung
- ▶ Hoher Grad an geplanten Maßnahmen



- ▶ Einsatz von vorausplanenden Instandhaltungstools und -systemen
- ▶ Entwicklung langfristiger Optimierungsstrategien zur Effizienzsteigerung
- ▶ Qualifiziertes, trainiertes Personal
- ▶ Kosten weitgehend planbar
- ▶ Analyse von Ausfallursachen
- ▶ Moderne, hochentwickelte Planungssysteme
- ▶ Aussagekräftiges Bewertungs- und Berichtswesen



Ihre Zusammenarbeit mit Siemens zahlt sich mehrfach aus

1. Eine Vielzahl von Experten

Wir liefern Ihnen Best-Practice-Know-how, das wir in zahlreichen Projekten erworben haben. Zu Ihrem Vorteil setzen wir moderne Kommunikationssysteme ein, die das Expertenwissen mobilisieren, das wir in den verschiedenen Kompetenzzentren weltweit bündeln.

2. Motivierte Teams

Ausgeprägte Eigenverantwortung durch eine sehr flache Hierarchie und eine starke Kundenorientierung – für die auch unsere vereinbarten Leistungskennzahlen die Maßstäbe setzen – charakterisieren die erfolgreiche Art, mit der unsere Mitarbeiter an die gemeinsamen Aufgaben herangehen.

3. Erprobte

Instandhaltungsstrategien

Wir verfolgen bewährte Strategien, um den Wandel von der reaktiven zu einer vorausplanenden Instandhaltung zu erreichen.

4. Informationen –

die leistungsteigernden Faktoren

Ganz gleich, welches System Sie derzeit einsetzen, unser Team weiß, wie man darauf aufbauend ein Instandhaltungs-Management-System implementiert, welches das Analyse- und Berichtswesen verbessert.

5. Innovative Diagnose-Tools

Der Einsatz von zum Teil einzigartigen Messmethoden und Diagnoseverfahren ermöglicht uns, präzise festzustellen, welchen tatsächlichen Zustand Ihre Anlagen und Maschinen aufweisen.

6. Kernkompetenz:

vermeidet Lernkosten

Instandhaltung ist unser Kerngeschäft. Diese Kompetenz rund um die damit verbundenen Aufgaben bedeutet für Sie Zeitgewinn bei der Einführung einer effizienteren Instandhaltung.

7. Individuelle Verträge

nach Kundenbedarf

Der Umfang an Instandhaltungsleistungen, die leistungsabhängigen Boni, die Verantwortlichkeit für den Anlagenbetrieb, die Art und Anwendung von Finanzierungsmodellen, wie z.B. Sale and Lease-Back, bis hin zur Übertragung von Teillanagen, Nebenprozessen und Ersatzteillogistik – aus einer Vielzahl modular aufgebauter Instandhaltungspakete können wir gemeinsam die individuell für Sie bedeutenden auswählen.

8. Weltweite Ersatzteil-Distribution

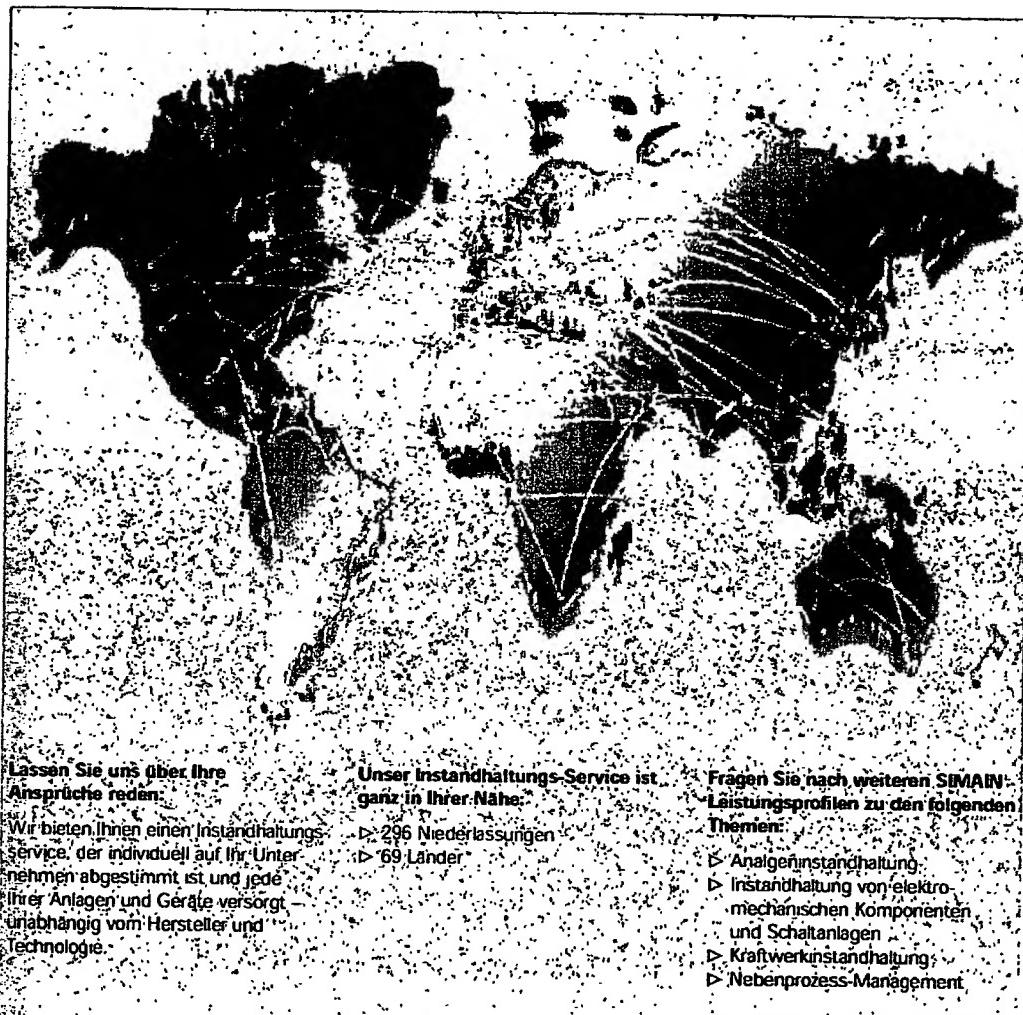
und After-Sales-Services – auch in

Ihrem Namen

Nutzen Sie unser hocheffizientes globales Distributionsnetzwerk für Ersatzteile. Ganz gleich, wann und wo in der Welt eine Ihrer Anlagen steht – wir sind mit dem benötigten Teil rasch zur Stelle. Sie können unser Service-Center, rund um die Uhr an 365 Tagen im Jahr anrufen – in über 69 Ländern.



Weltweite Unterstützung



Lassen Sie uns über Ihre Ansprüche reden.

Wir bieten Ihnen einen Instandhaltungsservice, der individuell auf Ihr Unternehmen abgestimmt ist und jede Ihrer Anlagen und Geräte versorgt - unabhängig vom Hersteller und Technologie.

Unser Instandhaltungs-Service ist ganz in Ihrer Nähe:

- ▷ 296 Niederlassungen
- ▷ 69 Länder

Fragen Sie nach weiteren SIMAIN-Leistungsprofilen zu den folgenden Themen:

- ▷ Analgeninstandhaltung
- ▷ Instandhaltung von elektro-mechanischen Komponenten und Schaltanlagen
- ▷ Kraftwerkinstandhaltung
- ▷ Nebenprozess-Management

Sie wünschen weitere Informationen? Wenden Sie sich an Ihre Siemens Niederlassung vor Ort oder an die unten genannte Adresse.

Erfahren Sie mehr über uns auf unserer Homepage www.siemens.de/simain

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Siemens Aktiengesellschaft

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SIEMENS

Electro-mechanical Maintenance Consulting Services: Know-how for winners



Your business strategy should take in account the ongoing changes resulting from globalization, technical advances and increasing competition. The maintenance is an important part of this strategy. Best maintenance practice can help reduce costs, increase plant availability and improve product quality.

Maintenance becomes an investment to be optimized and not a cost to be minimized. We offer a number of industrial maintenance services, as single modules or as complete solutions including managerial and consulting services.

Services include:

- ▷ Maintenance Business Review
- ▷ Maintenance Improvement Program (MIP)
- ▷ Business Based Maintenance strategy development
- ▷ Computerized Maintenance Solutions
- ▷ Asset Condition Review

Maintenance Business Review

We use standardized procedures and assessment criteria to review and benchmark your current maintenance operation.

The review covers three main categories

- ▷ Management responsibility
- ▷ Maintenance systems and procedures
- ▷ Personnel and resources

As many as 22 performance indicators are evaluated in detail, providing an excellent starting point for any improvement program.

Maintenance Improvement Program

Your existing maintenance department may be running well but is having difficulty finding the time to set up the improvement processes that you need to keep your business competitive. Creating an environment of change and improvement is our core business.

Based on the results of a Maintenance Business Review, we help to establish improvement programs which will cut overall long-term costs and improve reliability.

This can include

- ▷ Aligning the maintenance strategies to your business objectives
- ▷ Improving planning and scheduling
- ▷ Optimizing workload management
- ▷ Improving utilization of a computerized maintenance management system
- ▷ Better materials management
- ▷ Establishing a training and employee development program

Siemens Industrial Services

Business Based Maintenance Strategy Development

Business Based Maintenance is a process that first defines your critical equipment and maintenance needs in terms of your business goals. The next step is to develop uniquely tailored maintenance strategies that will help you to reach your objectives. These proactive strategies complemented by modern monitoring technologies will improve your equipment reliability and thus impact the bottom line.

Asset Condition Review

Our maintenance consultants can perform an on-site audit of your equipment to evaluate:

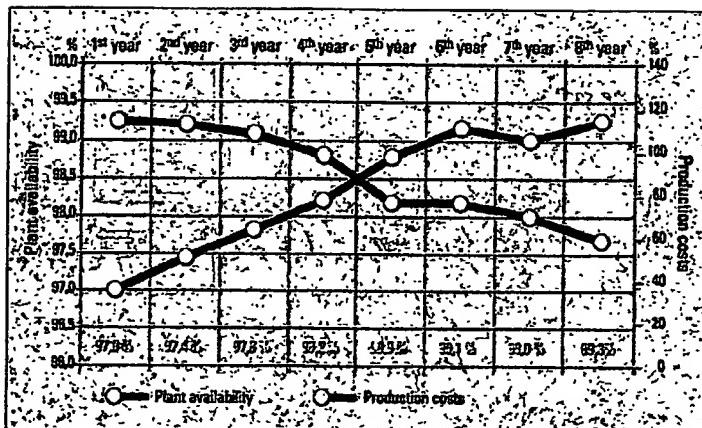
- ▷ Equipment condition
- ▷ Comprehensive preventive maintenance program
- ▷ Predictive maintenance techniques
- ▷ Expected equipment performance

We also review the factors

- ▷ Asset value
- ▷ Life expectancy
- ▷ Spares availability
- ▷ Replacement costs

Computerized Maintenance Solutions

An efficient maintenance operation uses computers to plan, schedule, and record maintenance work. The software is usually also capable of handling materials management and spare parts logistics. Crucial to the success of the computerized maintenance management system are activities such as design, selection, installation,

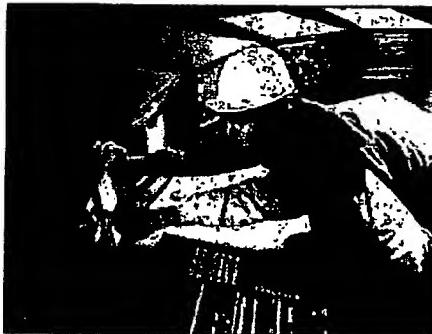


population and staff training. Populating it with the data from the planning phase requires a significant man-power effort. We can bring this combined maintenance and IT function to the aid of your business. Siemens specialists bring important assets to their job. These include intensive understanding of your special application and relevant industrial experience. We work hand in hand with the maintenance provider. We can deliver and implement interfaces to your Enterprise Resource Planning System (ERP), to purchasing and access control systems, to materials and document management systems, as well as condition monitoring systems.

For more information contact your local Siemens office or the address below

You can learn more about us on our web page: www.siemens.com/simain

As a result of our optimized maintenance strategy, we increase plant availability and appreciably reduce maintenance costs.



Siemens AG
Industrial Projects and
Technical Services, ATD TD 4
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D-91050 Erlangen
E-Mail: simain@erl9.siemens.de

Siemens Aktiengesellschaft

Subject to change without prior notice

Industrial Projects and
Technical Services, ATD

*your success
is our goal*

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SERVTRONIC · Electronic Design & Manufacturing Services



SERVTRONIC
Electronic Services

Electronic solutions of the Highest Quality

We can find economic, state-of-the-art
solutions for your electronic needs
when we distinguish by customizing
individually

SERVTRONIC offers:

- ▷ Development, design of Electronic
solutions in line with your require-
ments
- ▷ Manufacture of Electronic plug-in
cards, equipment and systems
- ▷ Tailored service packages

Independence of future develop- ments is a result of a high degree of innovation

We in our role as your enhanced-value
partner for electronics, can offer you
both partial and complete solutions
Solutions, which are oriented to your
specific needs and built on these re-
quirements, where standard solutions
are either not available or whose scale
is inadequate

E-Mail: servtronic@t-online.de

<http://www.servtronic.com/en/tronic>

Our service competence can bring you substantial benefits

These include

- ▷ Development,
- ▷ Design,
- ▷ Procurement,
- ▷ Manufacturing
- ▷ Testing
- ▷ Jack-in-Jack-out
- ▷ Repair Service
- ▷ Spare parts

Concentration on core competencies
is often the best policy for many com-
panies. This performance of essential
and significant services is outsourced
to external service providers. Out sour-
cing saves the capital and releases
resources. With a strong partner such
as SERVTRONIC, you will succeed in
realizing a high added value to all your
components and testing of electronics
or specialized services - irrespective
of whether you want to enhance your
current products or introduce electro-
nic components by optimizing the cur-
rents or if you want to introduce by
introduction of new technologies



Our innovative creativity, our clear com-
mitment to a value-enhancement part-
nership, our mutual success prospects
and our modular range of customer
services accompany you on your path
to business success and thus increase
your profitability

SIBRAIN - Knowledge Management



Samples of our current training program

- Maintenance management and preventive maintenance tools
- Application training for automation and drives
- Operator training

Worldwide, local and online

SIBRAIN combines proven training concepts and innovative training methods

Be shared by others

Our computer based trainings (CBT) automatically educate your personnel locally directly at their workplace and related to their actual tasks

Our online program

Our online program offers an active know-how transfer. Study works mode and just-in-time mode.

Benefits are

- Low cost training logistics
- Real access to operational data bases and off-line material
- Permanent, online coaching by experienced tutors

Always up to date

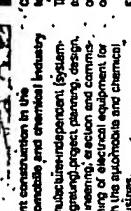
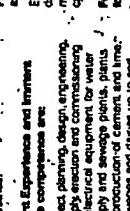
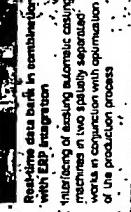
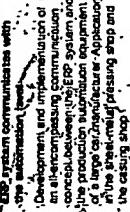
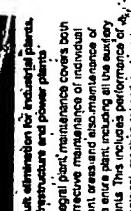
Innovation cycles are becoming shorter all the time and demand for continuous learning. Keeping this knowledge live within an organisation up to date is a huge challenge for the learning organisation. Practice-oriented learning and innovative learning methods are necessary for the development of your organisation's know-how

Proven training concepts for technical know-how

SIBRAIN offers you seminars, guided practical training and workshops in engineering, commissioning, maintenance and software development.



Extract from our world-wide references

SIPART - Control Contracting	SIPART - Control Contracting	SIPART - Control Contracting
		
Plant construction in the automobile and chemical industry	Plant construction in the automobile and chemical industry	Plant construction in the automobile and chemical industry
Manufacture-independent system engineering, project planning, design, engineering, erection and commissioning of electrical equipment for both the automobile and chemical industries.	Manufacture-independent system engineering, project planning, design, engineering, erection and commissioning of electrical equipment for both the automobile and chemical industries.	Manufacture-independent system engineering, project planning, design, engineering, erection and commissioning of electrical equipment for both the automobile and chemical industries.
Plant Experience and Immense Local Competence are	Plant Experience and Immense Local Competence are	Plant Experience and Immense Local Competence are
Project planning, design, engineering, supply, erection and commissioning of electrical equipment for water supply and sewage plants, plants for production of steam and time-consuming and dangerous work, such as demolition of buildings, erection of large structures, etc.	Project planning, design, engineering, supply, erection and commissioning of electrical equipment for water supply and sewage plants, plants for production of steam and time-consuming and dangerous work, such as demolition of buildings, erection of large structures, etc.	Project planning, design, engineering, supply, erection and commissioning of electrical equipment for water supply and sewage plants, plants for production of steam and time-consuming and dangerous work, such as demolition of buildings, erection of large structures, etc.
Plants, Equipment and Immense Local Competence are	Plants, Equipment and Immense Local Competence are	Plants, Equipment and Immense Local Competence are
Extensive local/german services for extensive portions of clients from different countries, e.g. a well-known german company.	Extensive local/german services for extensive portions of clients from different countries, e.g. a well-known german company.	Extensive local/german services for extensive portions of clients from different countries, e.g. a well-known german company.
Power distribution services	Power distribution services	Power distribution services
Worldwide organization and establishment of fault elimination for circuit breakers of various voltage levels for products of the Siemens AG and other manufacturers.	Worldwide organization and establishment of fault elimination for circuit breakers of various voltage levels for products of the Siemens AG and other manufacturers.	Worldwide organization and establishment of fault elimination for circuit breakers of various voltage levels for products of the Siemens AG and other manufacturers.
Comission of passenger and fright ships	Comission of passenger and fright ships	Comission of passenger and fright ships
Planning, design, engineering, erection and commissioning of electrical equipment for newly built and modification of existing passenger and freight ships.	Planning, design, engineering, erection and commissioning of electrical equipment for newly built and modification of existing passenger and freight ships.	Planning, design, engineering, erection and commissioning of electrical equipment for newly built and modification of existing passenger and freight ships.
Reduction of damage caused by fire	Reduction of damage caused by fire	Reduction of damage caused by fire
Emergency institution of equipment substitution to remove caused by fire in the power industry and on passenger ships including supply of all necessary equipment.	Emergency institution of equipment substitution to remove caused by fire in the power industry and on passenger ships including supply of all necessary equipment.	Emergency institution of equipment substitution to remove caused by fire in the power industry and on passenger ships including supply of all necessary equipment.
SIT Industry - Information Information Plant Solutions	SIT Industry - Information Information Plant Solutions	SIT Industry - Information Information Plant Solutions
		
Real-time data basis in combination with ERP integration	Real-time data basis in combination with ERP integration	Real-time data basis in combination with ERP integration
Successful linking of numerous intra-logistics customers, for example, in various steel plants as well as in training mills & numerous sites all over the world, e.g. Dornier, Oberhausen, and Krauss-Maffei.	Successful linking of numerous intra-logistics customers, for example, in various steel plants as well as in training mills & numerous sites all over the world, e.g. Dornier, Oberhausen, and Krauss-Maffei.	Successful linking of numerous intra-logistics customers, for example, in various steel plants as well as in training mills & numerous sites all over the world, e.g. Dornier, Oberhausen, and Krauss-Maffei.
Training for operating- and maintenance personnel	Training for operating- and maintenance personnel	Training for operating- and maintenance personnel
Successful training of numerous customers (e.g. major manufacturers in various steel plants) as well as in training mills & numerous sites all over the world, e.g. Dornier, Oberhausen, and Krauss-Maffei.	Successful training of numerous customers (e.g. major manufacturers in various steel plants) as well as in training mills & numerous sites all over the world, e.g. Dornier, Oberhausen, and Krauss-Maffei.	Successful training of numerous customers (e.g. major manufacturers in various steel plants) as well as in training mills & numerous sites all over the world, e.g. Dornier, Oberhausen, and Krauss-Maffei.
Design & Manufacturing Services	Design & Manufacturing Services	Design & Manufacturing Services
		
Design & Manufacturing Services	Design & Manufacturing Services	Design & Manufacturing Services
Development and implementation of an efficient passing communication concept (including the ERP system and the production information requirement of a large car manufacturer Application) in the sheetmetal pressing shop and in the casting shop.	Development and implementation of an efficient passing communication concept (including the ERP system and the production information requirement of a large car manufacturer Application) in the sheetmetal pressing shop and in the casting shop.	Development and implementation of an efficient passing communication concept (including the ERP system and the production information requirement of a large car manufacturer Application) in the sheetmetal pressing shop and in the casting shop.
Industrial networks	Industrial networks	Industrial networks
Implementation of the redundant ether- structure in a number of semiconductor plants.	Implementation of the redundant ether- structure in a number of semiconductor plants.	Implementation of the redundant ether- structure in a number of semiconductor plants.
Electromechanical maintenance	Electromechanical maintenance	Electromechanical maintenance
We reuse the functional module of the electrical/mechanical equipment - without removal of parts made to help you achieve your business objectives. Key areas include: traction, transmission, generators, steering, and suspensions. Maintenance learning for passenger and freight rail vehicles can also be provided.	We reuse the functional module of the electrical/mechanical equipment - without removal of parts made to help you achieve your business objectives. Key areas include: traction, transmission, generators, steering, and suspensions. Maintenance learning for passenger and freight rail vehicles can also be provided.	We reuse the functional module of the electrical/mechanical equipment - without removal of parts made to help you achieve your business objectives. Key areas include: traction, transmission, generators, steering, and suspensions. Maintenance learning for passenger and freight rail vehicles can also be provided.
Service partner for manufacturers of electricals	Service partner for manufacturers of electricals	Service partner for manufacturers of electricals
Safe service center in Europe for a large vehicle leasing, Japanese manufac- turer, including Japanese manufac- turer of electricals (for fuel economiz- er WORM driven freight transport). Mainte- nance for passenger and freight rail vehicles. Range of the complex mechanical equipment, and of the control electronics.	Safe service center in Europe for a large vehicle leasing, Japanese manufac- turer, including Japanese manufac- turer of electricals (for fuel economiz- er WORM driven freight transport). Mainte- nance for passenger and freight rail vehicles. Range of the complex mechanical equipment, and of the control electronics.	Safe service center in Europe for a large vehicle leasing, Japanese manufac- turer, including Japanese manufac- turer of electricals (for fuel economiz- er WORM driven freight transport). Mainte- nance for passenger and freight rail vehicles. Range of the complex mechanical equipment, and of the control electronics.
WORM maintenance	WORM maintenance	WORM maintenance
Checking of a large number of compo- nents and systems from different manufacturers with respect to their EURO II compliance and summary of the result in a customer-specific analysis	Checking of a large number of compo- nents and systems from different manufacturers with respect to their EURO II compliance and summary of the result in a customer-specific analysis	Checking of a large number of compo- nents and systems from different manufacturers with respect to their EURO II compliance and summary of the result in a customer-specific analysis
IT engineering and simulation	IT engineering and simulation	IT engineering and simulation
Automation and distributed control System (DCS) for 15 new high-voltage and middle-voltage switchgears in Thailand	Automation and distributed control System (DCS) for 15 new high-voltage and middle-voltage switchgears in Thailand	Automation and distributed control System (DCS) for 15 new high-voltage and middle-voltage switchgears in Thailand
References	References	References
Paper industry, automobile industry, water supply, congress and cultural centres, e.g. Expo 98	Paper industry, automobile industry, water supply, congress and cultural centres, e.g. Expo 98	Paper industry, automobile industry, water supply, congress and cultural centres, e.g. Expo 98

You've come to the right address – your partner for technical services all over the world

三

This map illustrates the global distribution of companies listed in the directory. The majority of entries are concentrated in North America, particularly the United States and Canada. There are also notable clusters in Europe, notably the United Kingdom and Germany, and smaller groups in Australia, Japan, and South Korea. A few companies are scattered across other continents like South America and Africa.

SIEMENS

Electro-mechanical Maintenance Improved reliability at work

*fitness
for
plants*

SIPLANT General Contracting	
SI-73 73 73 OnCall- and LogisticsService	
SIMAIN Central Plant Engineering, Maintenance, Repair & Optimization	
SIT Industry Information Technology Plant Solutions	
SERVTRONIC Electronic Design & Manufacturing Services	
SIBRAIN Knowledge Management	Siemens Industrial Services

PROFESSIONAL
INDUSTRIAL SERVICES

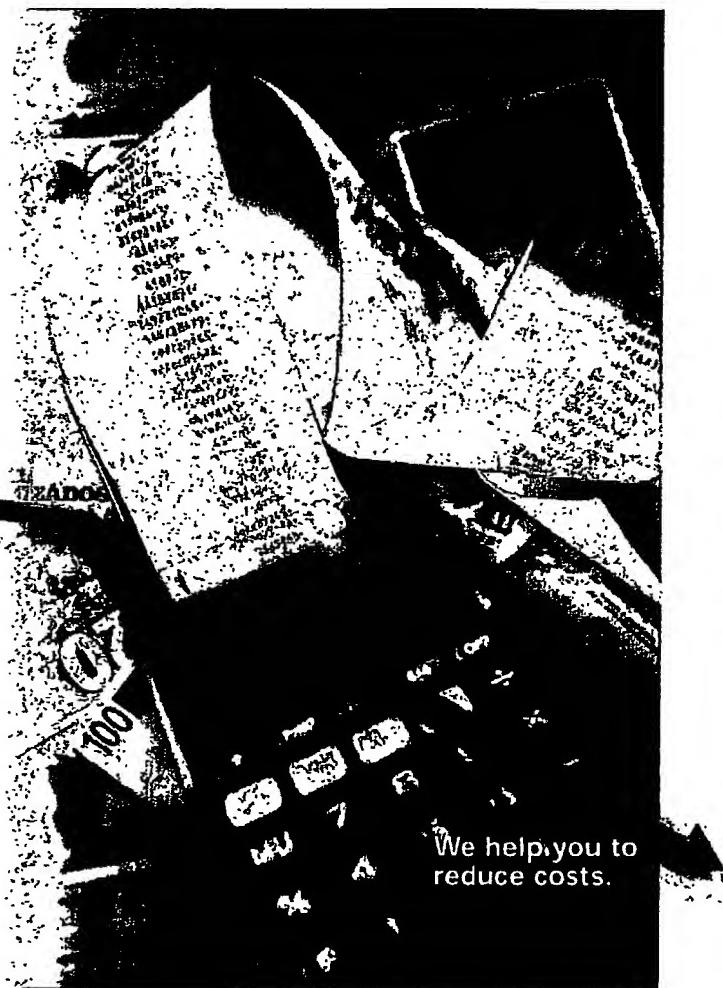
*your success
is our goal*

Partnering with Siemens is paying off every day

Your business strategy should take in account the ongoing changes resulting from globalization, technical advances and increasing competition. The maintenance function is an important part of this strategy. Best maintenance practice can help.

In developing our maintenance service programs, we drew on many years of experience and the confidence gained by excellent relations with our customers. The programs offer a broad range of maintenance services designed to provide comprehensive, vendor-independent solutions. There are a lot of really good reasons to partner with Siemens. By concentrating on your core business and partnering with Siemens you will.

- Receive professional services with predictable costs
- Increase plant availability
- Enjoy cost reductions through efficient operations and high employee motivation
- Benefit from the worldwide best-practice know-how of Siemens
- Gain more flexibility in the management and operation of your plant
- Obtain access to our strong global service network: 24 hours a day, 365 days a year
- See expenses for administration and logistics reduced



More than a service provider – your business partner

Our concept of Business Based Maintenance follows a comprehensive approach of results-oriented equipment management. We identify your business needs and then we develop a tailored package of services to meet the defined objectives. This process creates an efficient partnership focused on a win/win outcome.

Our commitment to your success is strengthened by performance-based contracts specifying key performance indicators such as:

- Availability
- Costs reductions
- Safety
- etc.

Sharing the profitability results in enhanced ownership – and is a key strategy for management and employee success.



Select the maintenance modules that will increase your performance

Modular services

Siemens offers a wide range of services, you select the ones that suit your maintenance needs.

1. Maintenance Consulting Services: to know what is to know how

- ▷ Maintenance Business Review
- ▷ Asset/equipment audits
- ▷ Workforce development

2. Cleaning Services: making your equipment more reliable

- ▷ Dry, moist, and wet cleaning
- ▷ Dry cleaning of HV electrical equipment on-line ≤ 36kV
- ▷ Cleaning of switch gear, transformers, electrical and electronic equipment
- ▷ Decontamination and corrosion removal

3. Condition Monitoring Program: advance warning of problems

We use state-of-the-art methods to assess the condition of your plant and machinery:

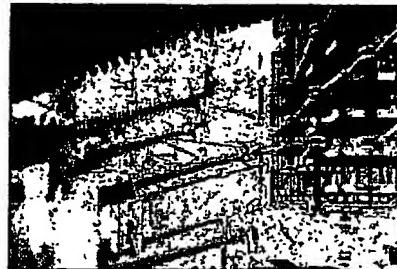
- ▷ Thermography
- ▷ Vibration measurements
- ▷ Ultrasonic testing
- ▷ Partial discharge testing
- ▷ Oil and fluid analysis
- ▷ Technical endoscopy

4. Maintenance Improvement Program (MIP)

- ▷ Implementation of a continuous improvement process
- ▷ Plant and workforce productivity program, higher skills, more flexibility, improved planning
- ▷ Definition of maintenance performance indicators
- ▷ Optimized workload management
- ▷ Better materials management
- ▷ Improved utilization of CMMS

5. Technical Support Program (TSP) and Motor Management Program (MMP)

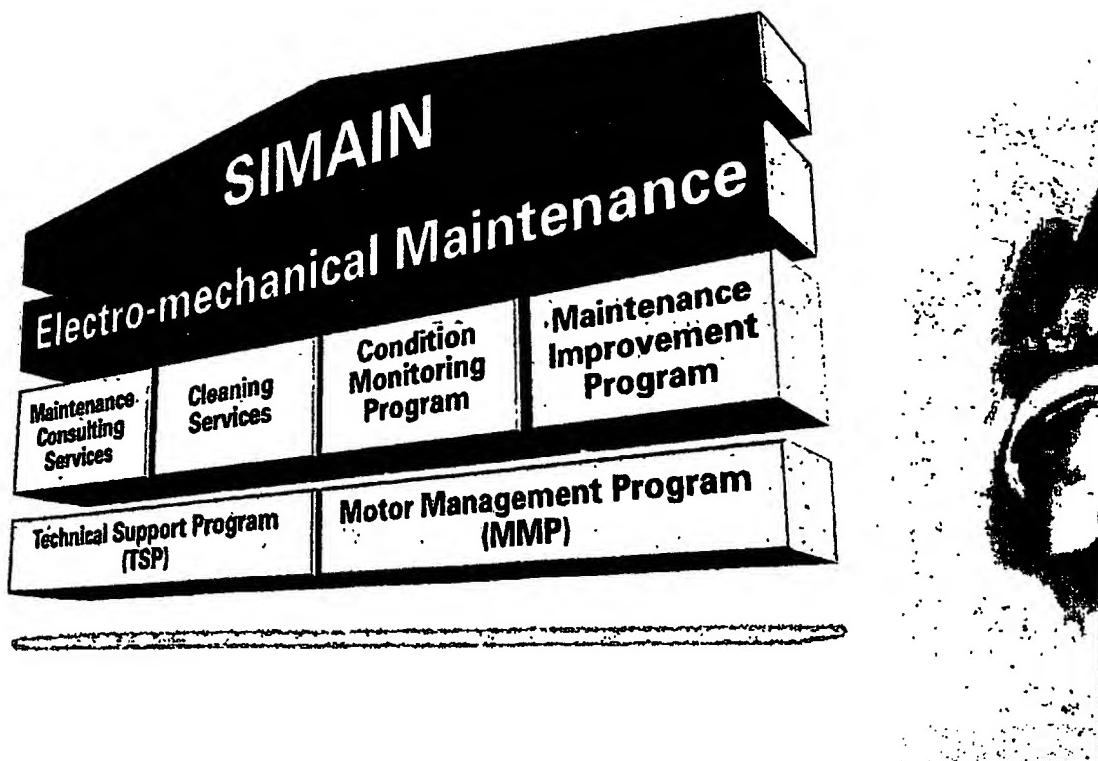
If you are aware of the benefits of improving your maintenance operation, but wary of taking on unpredictable costs, Siemens has the answer. We developed



Siemens supplies fitness for your plants. We ensure that all or a part of your electro-mechanical equipment is operational when required.

two modular service packages that let you tailor your maintenance improvements to your budget and your business objectives. Both deliver a number of benefits including:

- ▷ Reduced costs through proactive Business Based Maintenance
- ▷ Minimized downtime
- ▷ Optimized asset management & capital solutions
- ▷ Fast response when and where you need it



Exactly what you need

The objectives of these programs:

- ▷ Maximize equipment/systems reliability
- ▷ Optimize return on maintenance expenditures
- ▷ Reduce inventory investment
- ▷ Improve cost avoidance

Two types of module:

- ▷ Premium Modules are technology-oriented and cover your basic maintenance needs
- ▷ Platinum Options take you into Business Based Maintenance solutions, tuned to the special needs of your business

Technical Support Program Premium Modules

These are designed to ensure that any maintenance issues will be detected and addressed in their earliest stages. This increases reliability and availability of:

- ▷ Power generation and distribution equipment and systems
- ▷ Automations systems
- ▷ Drive systems
- ▷ Instrumentation and control systems
- ▷ Information technology systems

The result is bottom-line dollars that will drive your business.



Motor Management Program Premium Modules

- ▷ **On-site Services**
Proactive maintenance, including preventive, and predictive maintenance, planning and scheduling, and emergency response
- ▷ **Support Services**
Optimizing motor reliability with overhaul, repair, rewind, and upgrade services
- ▷ **Inventory Management Services**
Including the rationalization, optimization, storage, and maintenance of spare motors as well as a shared inventory program
- ▷ **Consulting & Engineering Services**
Including motor management assessment, motor condition reviews and reliability improvements
- ▷ **Information Management**
System design and interface and data management
- ▷ **Program Management**
Focal point for information management, improves tracking and reports performance, establishes modern workflow

The Platinum Options – moving to excellence in maintenance management

The new management services for the plant management:

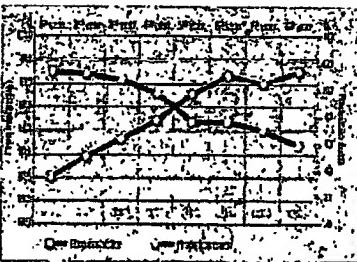
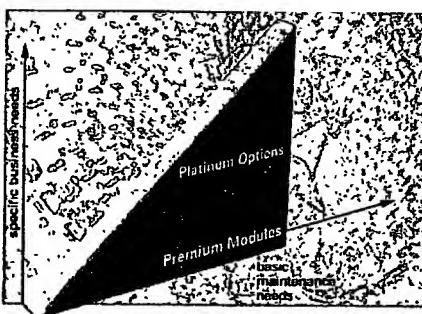
- ▷ **Capital Improvement**
Improve present state of assets to maintainable condition and project financing
- ▷ **Performance Contracting**
Independent asset review Value-added evaluation system, using Key Performance Indicators (KPIs). Regular reviews to monitor progress
- ▷ **Full Coverage**
Replacement/reduction with predictable costs. Free equipment replacement including labor over the term of the agreement

Technical Support Program specific Platinum Options

- ▷ **Reliability Focused Maintenance**
Proactive strategies, alignment to plant criticalities. Root cause failure analysis, condition based and business focused
- ▷ **Routine Operational Checks**
Monitor daily operational system parameters and review work process efficiency
- ▷ **Emergency Response Feature**
 - Two emergency calls per year
 - Customized response

Motor Management Program specific Platinum Options

- ▷ **Energy Optimization**
Complete motor system review that results in optimization recommendations with project savings



Business Based Maintenance is a process designed to impact the bottom line

Best maintenance practice

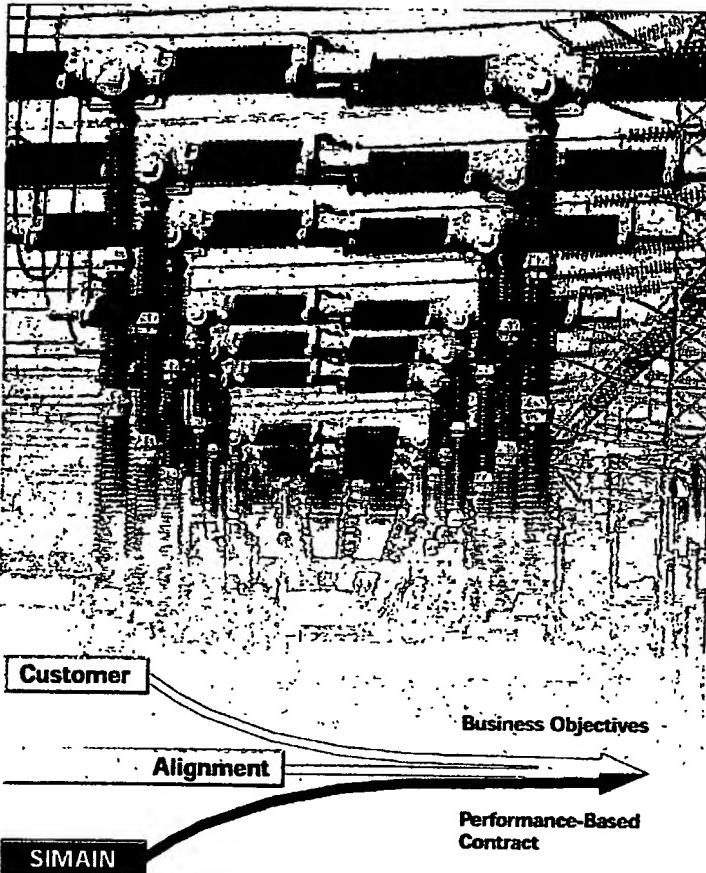
Get ahead of the competition

Increasing competitive pressure and the need to reduce costs have an impact on the entire business and drive companies to focus on their core business. As a worldwide successful partner, Siemens offers a best practice approach well fitted to your needs. By providing maintenance for electro-mechanical equipment, we can.

- ▷ Increase equipment availability and reliability
- ▷ Align maintenance to your business strategy
- ▷ Reduce your maintenance costs
- ▷ Eliminate the costs of unplanned shutdowns
- ▷ Optimize asset management

The key to high efficiency is SIMAIN Business Based Maintenance

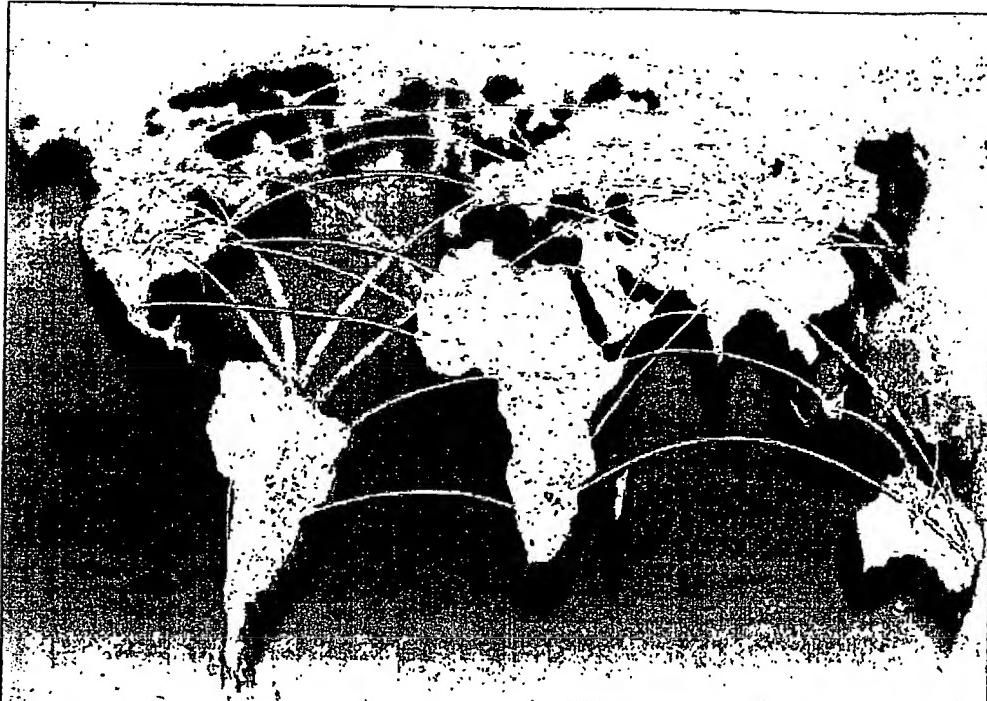
SIMAIN Business Based Maintenance is a process that first defines your equipment and maintenance needs in terms of your business goals. The next step is to develop uniquely tailored maintenance strategies that will help you to reach your objectives. Working with your maintenance organization, our engineers and maintenance specialists assess your current situation and develop strategies based on the plant's specific requirements. Most importantly, the success of these changes will be achieved by working closely with your employees to sustain improvements.



Siemens – innovative in technical services

As a manufacturer of products, systems and plants, and as a maintenance services provider, we supply you with proven know-how, modular services and efficient systems to keep your plant fully operational and your equipment up to date. Our services are vendor independent.

Discover the better alternative for electro-mechanical maintenance



Let's discuss your needs:

We can provide customized maintenance services for your business. Covering every type of plant and equipment irrespective of the manufacturer or technology.

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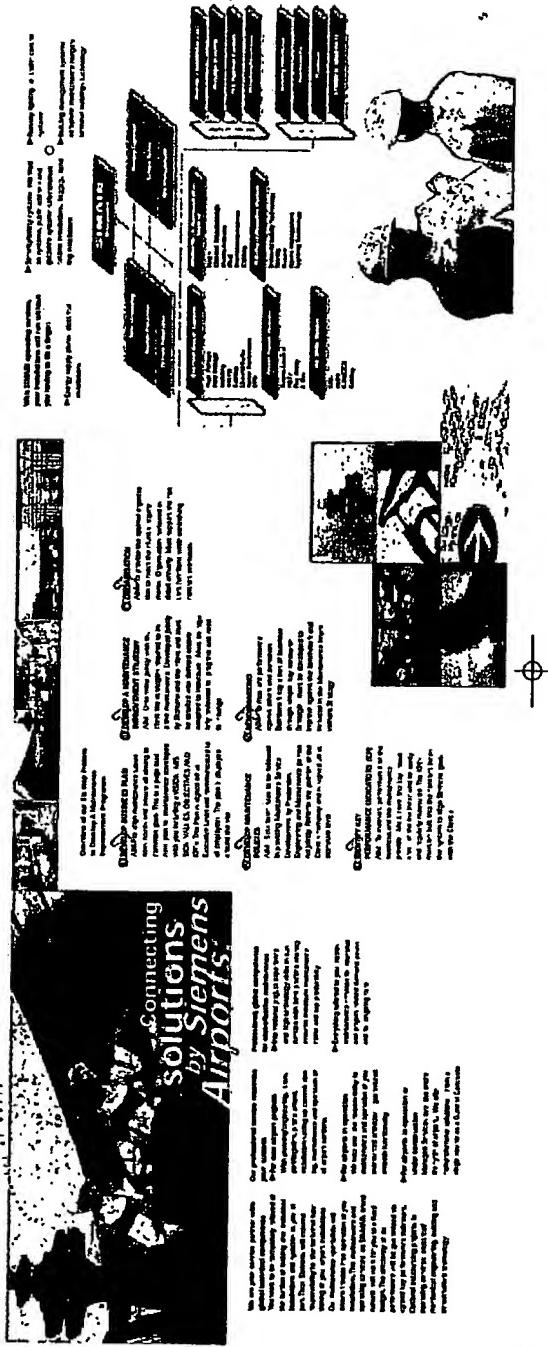
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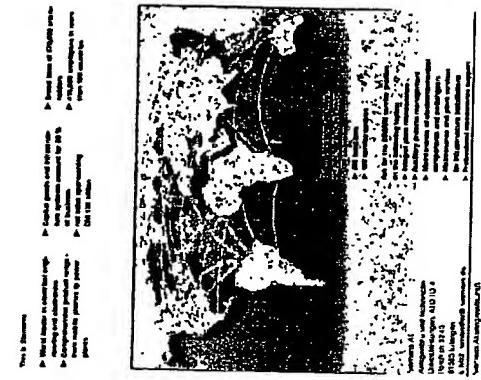
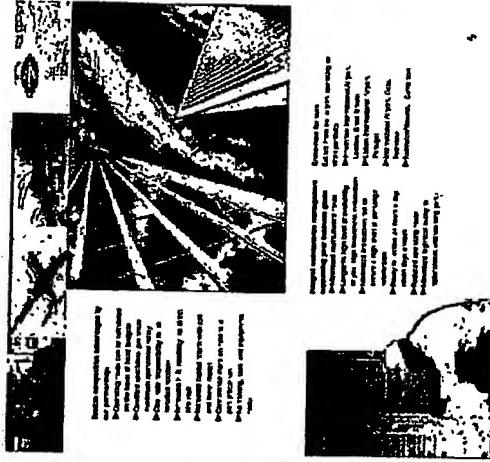


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